HITACHI

SM017

P50XR01E
P50XR01U
P60XR01E
P60XR01U

SERVICE MANUAL
MANUEL D'ENTRETIEN
WARTUNGSHANDBUCH

CAUTION:

Before servicing this chassis, it is important that the service technician read the “Safety Precautions” and “Product Safety Notices” in this service manual.

ATTENTION:

Avant d’effectuer l’entretien du châassis, le technicien doit lire les «Précautions de sécurité» et les «Notices de sécurité du produit» présentés dans le présent manuel.

VORSICHT:

Vor Öffnen des Gehäuses hat der Service-Ingenieur die „Sicherheitshinweise“ und „Hinweise zur Produktsicherheit“ in diesem Wartungshandbuch zu lesen.

Data contained within this Service manual is subject to alteration for improvement.

Les données fournies dans le présent manuel d’entretien peuvent faire l’objet de modifications en vue de perfectionner le produit.

Die in diesem Wartungshandbuch enthaltenen Spezifikationen können sich zwecks Verbesserungen ändern.

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT

Plasma TV
November 2007

Contents

CAUTION FOR SAFETY

Please read this page before repairing the monitor.

This page explains the following items for keeping the safety of set and preventing accidents during repair.

● **S m ols Used:**

⚠ **Warning**	This symbol means "possibility of death or heavy damage"
⚠ **Caution**	This symbol means "possibility of damage or breakage"

⚠	This symbol means **"CAUTION"**
⚠	This symbol means **"POSSIBILITY of ELECTRIC SHOCK"**

❗	This symbol means **"MUST"**
⃠	This symbol means **"DO NOT"**

⚠ WARNING

■ **Follow instructions.**

Special attention parts are indicated on cabinter, chassis and parts by label.

Please follow the notes in [Safety Instructions] in the User's Manual.

■ **Prevent electric shock.**

Take care during working because the monitor has high voltage parts and power supply parts.
Possibility of electric shock if these parts are touched.
Disconnect power plug during overhaul, reassemble or parts change.
Daeth or injury by electric shock may occur if live parts are touched.

■ **Use recommended components.**

Components and parts with special characteristics for safety or reliability are indicated in parts lists and circuit diagrams by the ⚠ mark.
Electric shock of fire may occur if non-recommended components or parts are used.

■ **Keep the same style of wiring.**

The Monitor uses insulating tubes or tapes for safety and some compnents are kept at a distance from PCB surfaces for safety.
Internal leads kept from hot- or high voltage parts by clampers or styling.
Return wiring to original condition after repair to prevent electric shock or fire.

■ **Perform safety check after finishing.**

Every part (removed screws, component and wiring) should be returned to to its original condition.
Check around the repair position for damage and measure insulation impedance by using a meg-ohm meter.
Confirm that the value of impedance is more than 4M ohm.
Electric shock or fire may occur if the value is less than 4M ohm.

■ **The code and combination circuit of the HDCP is not a repairable item.**

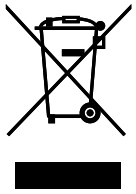
Never remove the shield case that is assembled to the code and combination circuit of the HDCP.

PRECAUTIONS

Cleaning the plasma screen panel of the monitor
Before cleaning the monitor, turn off the monitor and disconnect the power plug from the power outlet.
To prevent scratching or damaging the plasma screen face, do not knock or rub the surface with sharp or hard objects. Clean the screen with a soft cloth moistened with warm water and dry with a soft cloth. If it is not enough, then use a cloth with mild detergent. Do not use harsh or abrasive cleaners.

Cleaning the cabinet of the monitor
Use a soft cloth to clean the cabinet and control panel of the monitor. When excessively soiled dilute a neutral detergent in water, wet and wring out the soft cloth and afterward wipe with a dry soft cloth.
Never use acid/alkaline detergent, alcoholic detergent, abrasive cleaner, powder soap, OA cleaner, car wax, glass cleaner, etc. especially because they would cause discolouration, scratches or cracks.

Information for users applicable in European Union countries



This symbol on the product or on its packaging means that your electrical and electronic equipment should be disposed at the end of life separately from your household waste.
There are separate collection systems for recycling in EU. For more information, please contact the local authority or the dealer where you purchased the product.

1. Features

Large-screen, high-definition plasma display panel
The 50-inch colour plasma display panel, with a resolution of 1920 (H) x 1080 (V) pixels, and the 60-inch colour plasma display panel, with a resolution of 1920 (H) x 1080 (V) pixels, creates a high-definition, large-screen (aspect ratio: 16:9) and low-profile flat display. Free from electromagnetic interferences from geomagnetic sources and ambient power lines, the panel produces high-quality display images free from colour misconvergence and display distortion.

High Performance Digital Processor
A wide range of input signals can be handed, including composite, component and HDMI. High Definition Digital Processor creates the fine-textured image with dynamic contrast.

Easy-to-use remote control and on screen display system
The remote control included eases the work of setting display controls. Further, the on-screen display system, displays the status of signal reception and display control settings in an easy-to-view fashion.

Connecting to an Audio Visual Device
• Three Scart terminals[*1], composite/S terminal[*2], a component terminal[*3], and two HDMI terminals have been added. A composite video output terminal is also provided as a monitoring output.
[*1] AV1 scart applies to composite/ S-video
AV2 and 3 scart applies to composite/ RGB
[*2] AV5 composite/S-Video=Front Input
[*3] AV4 can be connected to the equipment with either component or composite Output.

SD card slot installed

Power Swivel Feature (only P50XR01U/E)
It allows turning the plasma display left or right within ±30 degree using the remote control.

Digital Terrestrial Television Broadcasting
Converting into digital signals enables more channels and various useful features, such as Electric Programme Guide, Digital Teletext, and so on. Further, digital signal can create high quality picture.

This logo indicates that the product is compliant with European Digital Broadcasting.
DVB is a registered trademark of the DVB Project.

This logo indicates that the product is set up to view digital terrestrial TV.
FREEVIEW and the FREEVIEW logo are trade marks of DVT Services Ltd and are used under license.
FREEVIEW Logo © DTV Services Ltd 2002.

Performance of the FC8 (FRC) Circuit

"FC8" is a term for Hitachi's original LSI having FRC function. "FRC" stands for Frame Rate Converter. By using Frame Rate Converter technology for moving compensation, this circuit creates higher picture quality and has the following functions:

1) Telecine performance (as applying "Film mode"): Judder Reduction

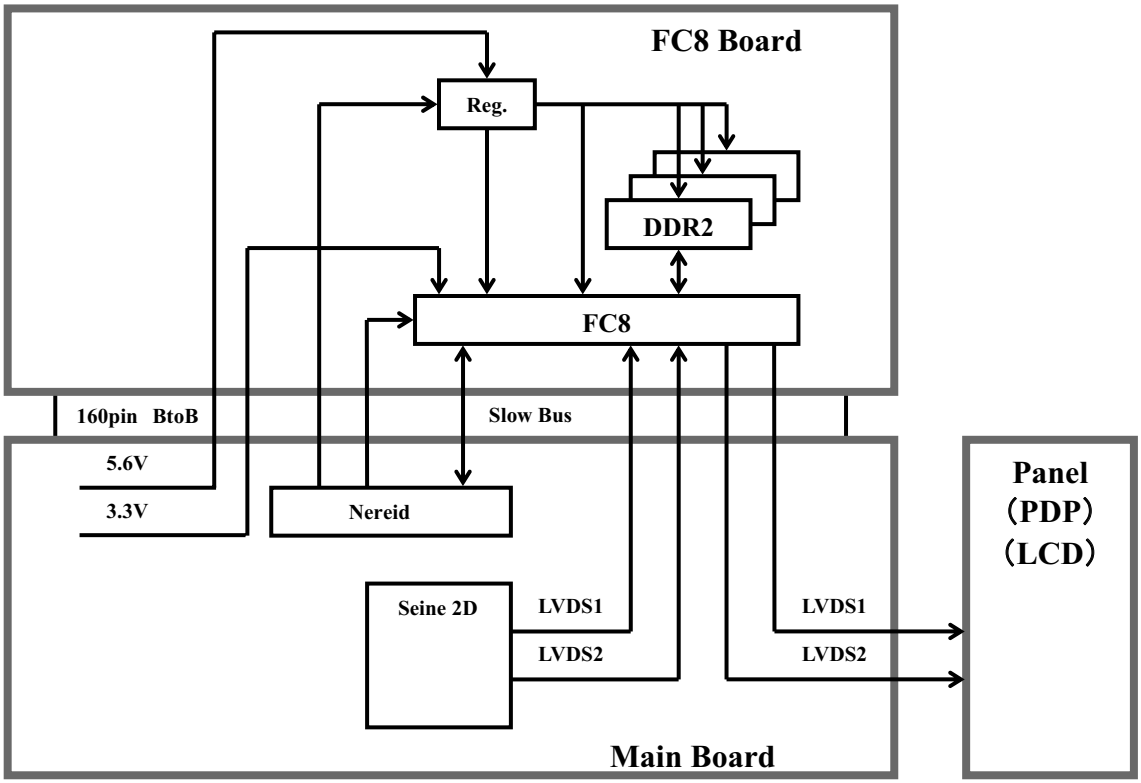
2) Improvement on PDP moving image by FRC from 50Hz to 60Hz.

From the perspective of hardware, this function is actualised by newly mounting FC8 LSI and 3 sets of 256Mbit-DDR2 memories on the FC8 board (which is only for this function).

As a block component, the FC8 board is located in front of panel block. It inputs the picture signal of the LVDS system (available: single/dual system) and then once processing the FRC as mentioned above, it outputs the picture signal of LVDS system (available: single/dual system) again in order to supply the panel. As the control of FC8 board, I/F of the original FC Bus system is utilised.

2 power supplies are necessary: 5.6V and 3.2V. The other necessary power supplies are generated on the FC8 board.

All of the above I/F are combined into 1x 160-pin BtoB connector



FC8(FRC) Block

Handling the HDD (Hard Disk Drive)

HDD is a high precision device, and is very susceptible to vibrations or impact. Even if HDD operates normally immediately after it has been subjected to vibrations or impact, a problem may occur after it is used for a while: When servicing, take great care with the following.
There are two types of HDD: CSS format (head remains on disk regardless of operation status) and ramp loading format (head moves away from disk during no operation). The impact resistance characteristics are slightly different for the two. When servicing, observe the following cautions regardless of the format:

(1) Cautions during unpacking

1) Do not subject the HDD to any impact when placing on desk: The head hitting against the desk could result in damage.
2) If condensation occurs because of the environment, leave the HDD without being turned on for at least 3 hours until it adapts to surrounding environment. If the HDD is turned on while the head is sticking to disk because of condensation, the disk may be damaged.

(2) Cautions during transportation

An HDD is more susceptible to vibrations or impact when it is turned on or operating than during no operation.

1) Do not move the HDD while it is turned on: If the HDD is subject to any impact while the disk is rotating, i.e., the head hitting against the disk, breakage could result.
2) Move the HDD approximately 2 minutes (approximately 30 seconds for surveillance system devices) after turning it off and unplugging its power cord from AC outlet. The disk will still be rotating by inertia immediately after the HDD is turned off: Subjecting the HDD to movement at this time could destroy it.

(3) Cautions during operation

1) Do not unplug the power cord from AC outlet during operation: This could damage the data on HDD. Be sure to turn the HDD off before unplugging the power cord.
2) Do not hit the HDD: The head hitting the disk could result in breakage.

(4) Caution during packing

1) Use the packing material of relevant model: Material superior in impact resistance is used. Using other packing materials could result in fault.

(5) Cautions when handling unassembled HDD

1) Hold the HDD at both sides so that the circuit board surface is facing below: Holding the HDD at the top and bottom could cause the head to drift, which could result in fault.
2) Do not touch the terminal or pattern on circuit board.
3) Place HDD on a spot where cushion is pasted with the circuit board surface facing below.
4) Do not hold or place stacked HDDs.
5) Do not drop or hit HDD against anything: Dropping HDD from even 5 mm high on a work bench with high stiffness could cause fault.

Performance of the X-code2U Circuit Part

X-code2U makes digital broadcasting compression efficiency and has a function to realise recording for a long time (TS recording); in addition it possesses the MPEG encoding function to cope with analog broadcasting recording.

Recording Mode and Recording Time

There are 5 recording modes (Fig.1). The quality of the recorded picture varies depending on Recording Mode.

MODE	DTT	TV	Quality
TS	about 93 hours	-	High
XP	-	about 50 hours	↕
SP	-	about 95 hours	
LP	-	about 190 hours	
EP	-	about 310 hours	Low

*In EP mode, display resolution is lower. Select more than LP mode if the finer picture is preferred.

Fig.1

Following is the block diagram (Fig.2) of the recording processes.

The digital broadcasting inputs it into X-code2U after it was input into Tenko Ⅳ. X-code2U performs transformer code processing in real time and returns it to Tenko Ⅳ again and passes through the SATA conversion to HDD and is recorded. X-code2U has a separate input port for analog recording. It is recorded in the same pass on the HDD after MPEG encoding.

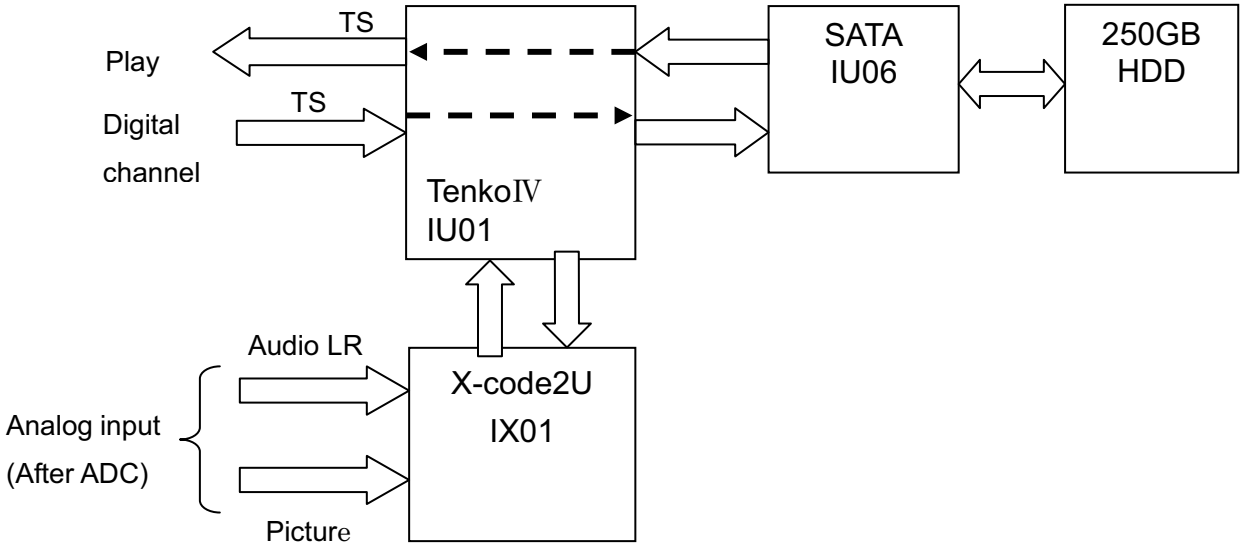


Fig.2 block diagram of the recording processing

2. Specifications

Panel	Display dimensions	P50XR01U/E	P60XR01U/E
		Approx. 50 inches (1106(H) x 626(V) mm, diagonal 1270mm)	Approx. 60 inches (1336(H) x 751(V) , diagonal 1530mm)
	Resolution	1920(H) x 1080 (V) pixels	1920(H) x 1080 (V) pixels
Net dimensions		including Stand: 1250(W)x890(H)x423(D) mm excluding Stand: 1250(W)x823(H)x129(D) mm	including Stand&Speaker: 1773(W)x1018(H)x483(D) mm including Speaker, excluding Stand: 1773(W)x952(H)x128(D) mm excluding Stand: 1502(W)x1018(H)x483(D) mm
Net weight		including Stand: 51.3Kg excluding Stand: 445.2Kg	including Stand&Speaker: 100Kg excluding Stand&Speaker: 75Kg
Ambient conditions	Temperature	Operating : 5°C to 35°C, Storage : 0°C to 40°C	
	Relative humidity	Operating : 20% to 80%, Storage : 20% to 90% (non-condensing)	
Power supply		AC220 - 240V, 50Hz	
Power consumption/ at standby		540W / <0.8W	W / <0.8W
Audio output		speaker total 32W	speaker total 27W
(VIDEO input)			
Input terminals		AV1 : composite video input terminal (SCART) S video input terminal (SCART) L/R audio input terminal (SCART) AV2•3 : composite video input terminal (SCART) RGB video input terminal (SCART) L/R audio input terminal (SCART) AV4 : composite video input terminal (RCA) component video input terminal.(RCA) L/R audio input terminal (RCA) AV5 : composite video input terminal (RCA) S video input terminal (Mini DIN) L/R audio input terminal (RCA) HDMI 1•2•3 : HDMI input terminal Audio input terminal (3.5mm Stereo Mini Jack)* Photo Input : Photo Input terminal / SD card slot	
Input signals		Composite video: PAL, SECAM, NTSC3.58, NTSC4.43, PAL60 Component video: 480i, 576i, 480p, 576p, 720p/50, 720p/60, 1080i/50, 1080i/60 HDMI:VGA/60, 480i, 576i, 480p, 576p, 720p/50, 720p/60, 1080i/50, 1080i/60, 1080, 1080p/60, 1080p/24	
Output Signal		OUTPUT (MONITOR): composite video monitor-output terminal (RCA) OUTPUT (MONITOR): L/R audio monitor- output terminal (RCA) OUTPUT (HEADPHONE): L/R audio monitor- output terminal (3.5mm Stereo Mini Jack) OUTPUT (SUB-WOOFER): woofer output terminal (RCA) AV1/2/3 : composite video output terminal (SCART) L/R audio output terminal (SCART) Optical Out: PCM/Dolby Digital	
(RF input)			
Input terminal / Receiving range		ANT : 75Ω Unbalanced / 40~870MHz	
RF Video System		PAL B, G, H / I / D, K SECAM B, G / K1 / L, L' / D,K DVB-T	
(RGB input)			
Input terminals		Analog RGB input terminal (D-sub 15pin) Audio input terminal (3.5mm Stereo Mini Jack)*	
Input signals		0.7Vp-p, analog RGB (Recommended Signal)	
Sync singnals		H/V separate, TTL level [2kΩ]	

• The unit takes at least 30 minutes to attain the status of optimal picture quality.

* This analog audio input terminal can be used for PC (RGB) or HDMI1~3 only.

3. Servicing

● Lead free solder

This product uses lead free solder (unleaded) to help preserve the environment. Please read these instructions before attempting any soldering work.

Caution: Always wear safety glasses to prevent fumes or molten solder from getting into the eyes. Lead free solder can splatter at high temperatures (600˚C).

■ Lead free solder indicator

Printed circuit boards using lead free solder are engraved with an "F."

■ Properties of lead free solder

The melting point of lead free solder is 40-50˚C higher than leaded solder.

■ Servicing solder

Solder with an alloy composition of Sn-3.0Ag-0.5Cu or Sn-0.7Cu is recommended.
Although servicing with leaded solder is possible, there are a few precautions that have to be taken. (Not taking these precautions may cause the solder to not harden properly, and lead to consequent malfunctions.)

Precautions when using leaded solder

- Remove all lead free solder from soldered joints when replacing components.
- If leaded solder should be added to existing lead free joints, mix in the leaded solder thoroughly after the lead free solder has been completely melted (do not apply the soldering iron without solder).

■ Servicing soldering iron

A soldering iron with a temperature setting capability (temperature control function) is recommended.
The melting point of lead free solder is higher than leaded solder. Use a soldering iron that maintains a high stable temperature (large heat capacity), and that allows temperature adjustment according to the part being serviced, to avoid poor servicing performance.

Recommended soldering iron:

- Soldering iron with temperature control function (temperature range: 320-450˚C)

Recommended temperature range per part:

Part	Soldering iron temperature
Mounting (chips) on mounted PCB	320˚C±30˚C
Mounting (chips) on empty PCB	380˚C±30˚C
Chassis, metallic shield, etc.	420˚C±30˚C

Board assemblies which use lead free solder

① CONTROL PCB (Control PCB, Slot PCB, SD PCB, PC PCB)
② TERMINAL PCB (Terminal PCB, LED PCB, Swivel PCB)
③ FILTER PCB
④ MAIN PCB
⑤ FC8 PCB

■ Readjustment Power supply voltage

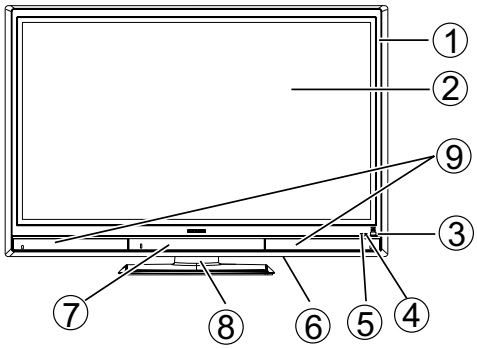
When a PANEL or a Power Unit is exchanged, power supply voltage is automatically adjusted.
However, Please reconfirm to the values of Vs and Va, as shown on the label carrently stuck on the panel back upper parts.
Please refer to the reconfirm the “Vs and Va” voltages on Power Unit.

4. Component names

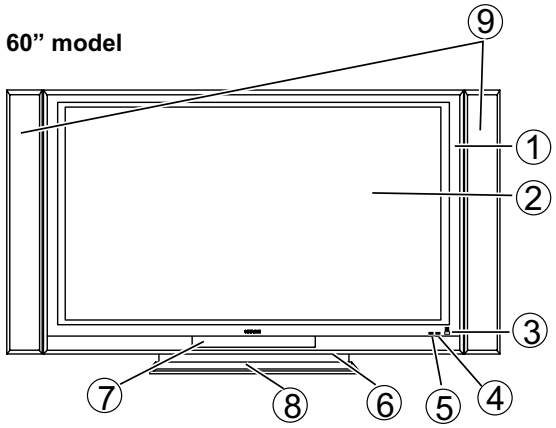
[Main unit]

Front Panel

50” model



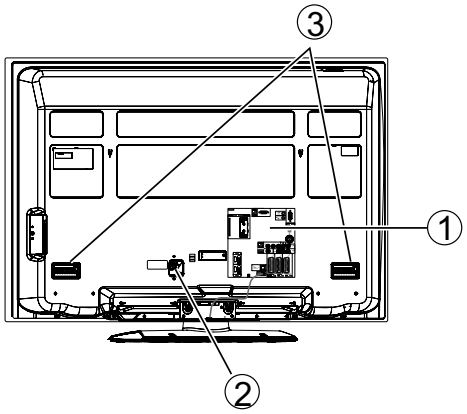
60” model



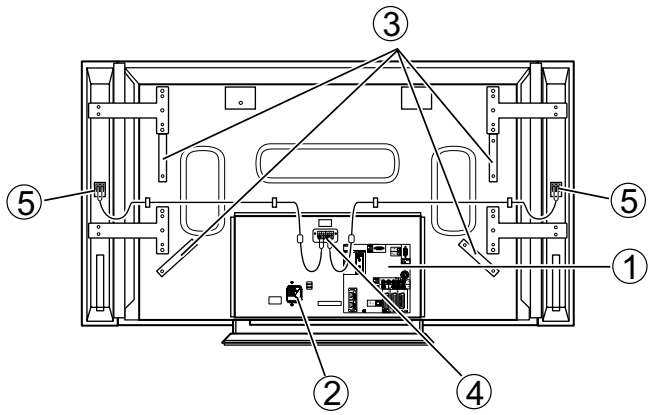
① Cabinet
② Panel
③ Remote Control Receiver
④ HDD/Timer Indicating Lamp
⑤ Power Indicating Lamp
⑥ Main Power Switch (On the bottom surface)
⑦ Control Panel and Front Input
⑧ Desktop Stand
⑨ Speaker (Option for 60” model)

Rear Panel

50” model



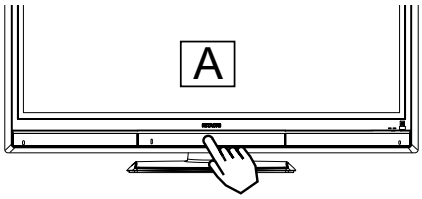
60” model



① Terminal board (External Device Connection)
② Power Cord Socket
③ Handgrips
④ Terminals for speaker cables on television
⑤ Terminals for speaker cables on speaker

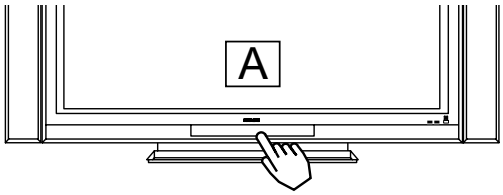
Control Panel (including front input)

50” model

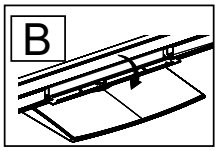


Push here to open the door.

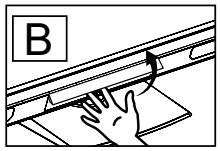
60” model



Push here to open the door.



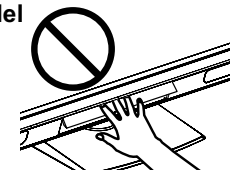
A Push the bottom centre of the front door to unlock.
B Pull down the upside of the door.



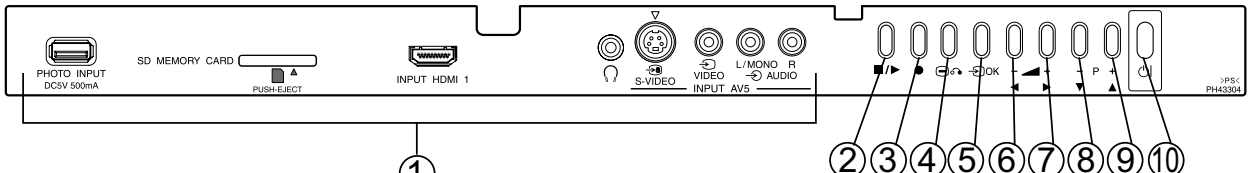
A Push the bottom centre of the front door to unlock.
B Lift it up from the underside of the door.

⚠CAUTION *** for 60” model**

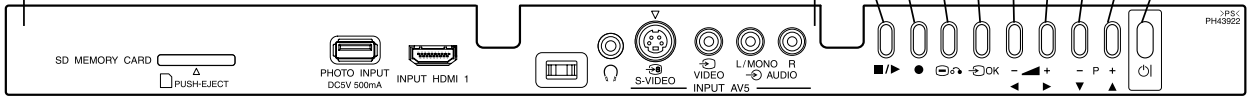
- Do not place your ?ngers into the gap at the opened door. If your ?ngers are caught in the front door, you may be injured.



50” model



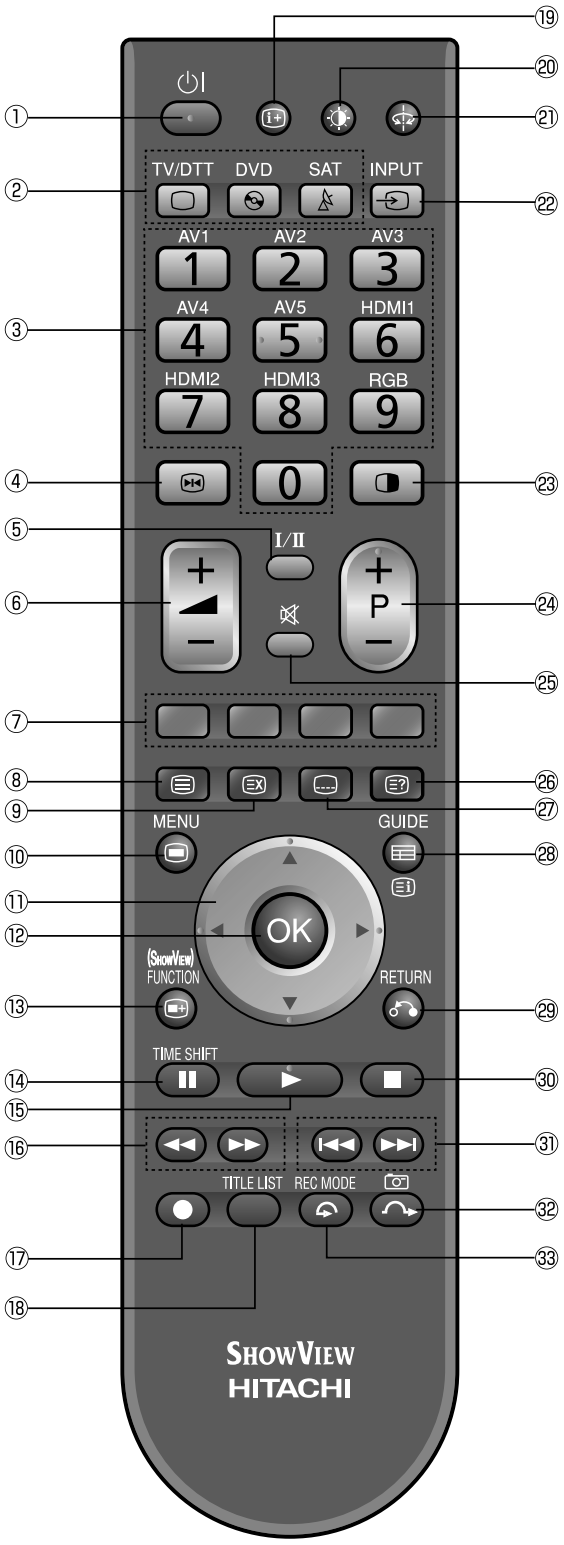
60” model



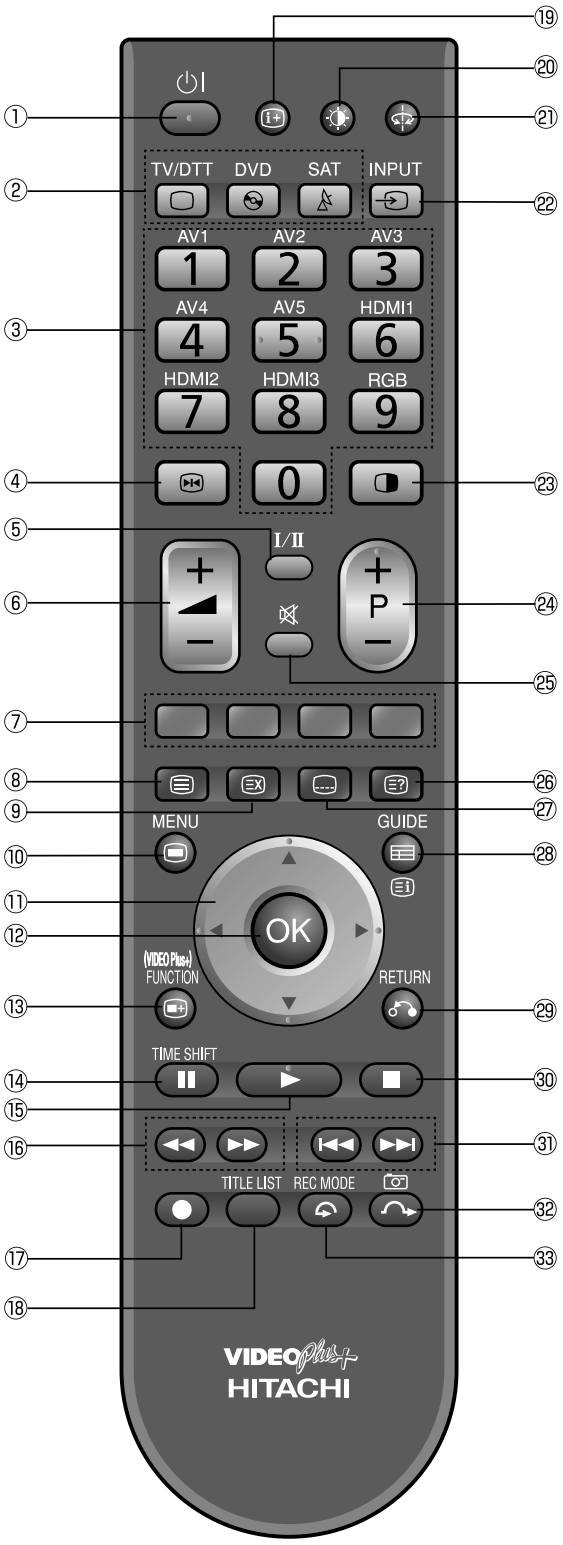
① Front Input
② Stop/Play button
③ Rec (Recording) button
④ Menu/Return button
⑤ Input Select/OK button
⑥ Volume Down/◄button
⑦ Volume Up/►button
⑧ Channel Down/▼button
⑨ Channel Up/▲button
⑩ Sub Power button

[Remote control]

[for ***XR01E model]



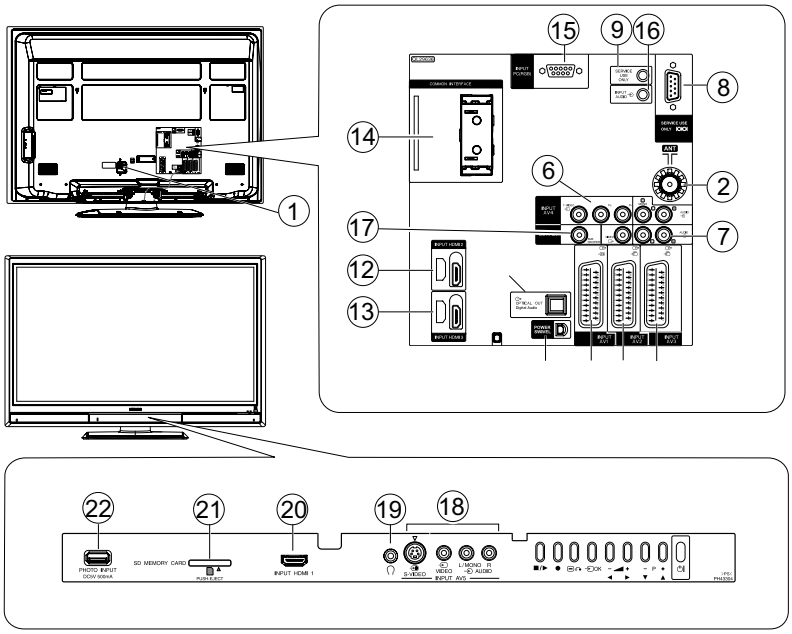
[for ***XR01U model]



① **Sub Power**
② **Device Select (TV/DTT, DVD, SAT)**
Press these buttons to select the device (TV/DTT, DVD, or SAT) to be controlled by this remote control. The selected button blinks once. Normally, select “TV/DTT”.
③ **Programme Select/Input Mode [Page Select]**
Press these buttons to select a TV programme directly. You can also use these buttons when changing the Input mode.
④ **Freeze/Multi Mode [Hold]**
⑤ **CHI/II**
This is exclusively for TV audio A2/NICAM mode. Also, press this button to select Audio Language in DTT mode.
⑥ **Volume Up/Down**
⑦ **Colour [Colour]**
⑧ **TV/Text [TV⇔Text]**
This switches between the TV mode and the Teletext mode.
⑨ **Time [Cancel]**
Pressing this button can indicate the time by On-screen display when receiving an analogue TV programme on the screen.
⑩ **Menu**
Press this button to select Main Menu.
⑪ **Cursor [Item Select]**
⑫ **OK**
⑬ **Function/Video Plus+ (✱✱✱XR01U model)/ SHOWVIEW (✱✱✱XR01E model)***
Press this button to select Function Menu.
⑭ **Pause/TIME SHIFT***
⑮ **Play***
⑯ **Rewind and Forward***
⑰ **Rec***
⑱ **TITLE LIST***
⑲ **Recall**
Press this button to show the input signal status.
⑳ **Picture Mode**
Picture mode can be changed each time pressed in the following sequence. Dynamic→Natural→Cinema
㉑ **Swivel (with Desktop Stand)**
This function is to rotate TV. Select the degree of rotation with cursor key.
This is not available for 60” model.
㉒ **Input Select**
You can use this to change the input mode.
㉓ **Multi Picture**
Press this button to change the picture to multi-picture mode. Press it again to return to normal picture.
㉔ **Channel Up/Down**
㉕ **Mute**
㉖ **[Reveal]**
㉗ **DVB Subtitle Language**
㉘ **Guide [Index]**
㉙ **Return**
You can use this to return to the previous menu.
㉚ **Stop***
㉛ **Skip***
㉜ **Photo Input/ 30-Second Skip***
Press this button to display and control the pictures from digital still camera, USB card reader, or SD (MMC) card.
㉝ **REC MODE/10-Second Back***

[Terminal Positions]

[50” model]



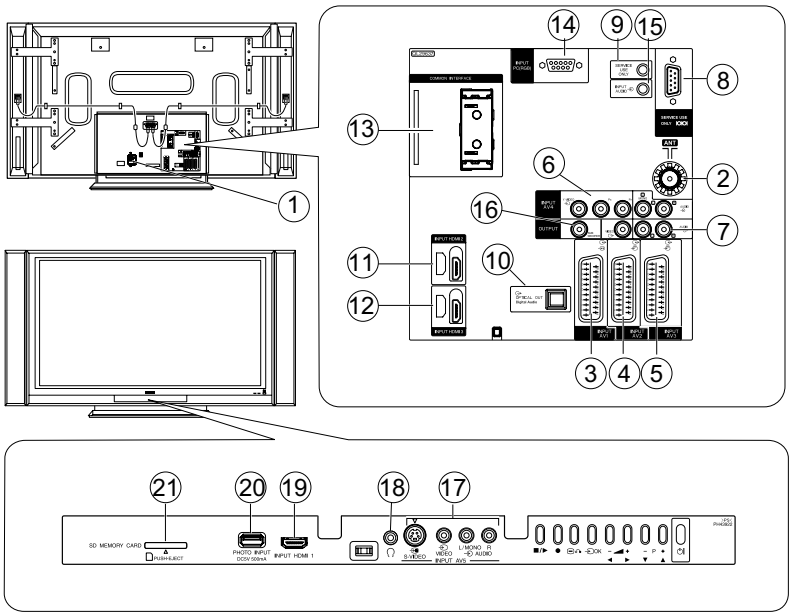
Rear

1. Power Cord Socket
2. Aerial Socket
3. AV1
4. AV2
5. AV3
6. AV4
7. Monitor Out
8. Service use only
9. Service use only
10. Power Swivel Terminal
    * Not available for 60” model.
11. Optical Out (Digital Audio)
12. HDMI 2
13. HDMI 3
14. Common interface slot
15. PC Terminals
16. Mini stereo for Audio
17. Sub woofer

Front

18. AV5
19. Headphone terminal
20. HDMI 1
21. SD Memory Card slot
22. Photo Input terminal

[60” model]



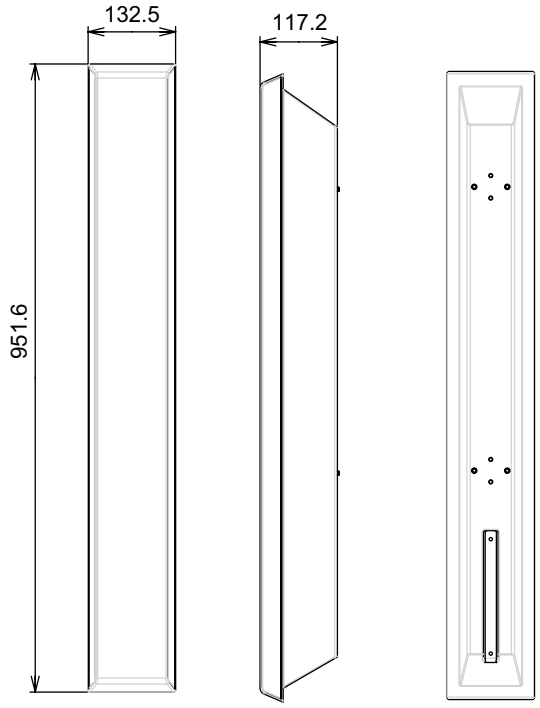
Rear

1. Power Cord Socket
2. Aerial Socket
3. AV1
4. AV2
5. AV3
6. AV4
7. Monitor Out
8. Service use only
9. Service use only
10. Optical Out (Digital Audio)
11. HDMI 2
12. HDMI 3
13. Common interface slot
14. PC Terminals
15. Mini stereo for Audio
16. Sub woofer

Front

17. AV5
18. Headphone terminal
19. HDMI 1
20. Photo Input terminal
21. SD Memory Card slot

[60V SPEAKER SYSTEMS SPECIFICATION]



Specifications

Model SP01G60E
Type ..... 2 way 3 speakers, Bass Reflex
Woofer..... 100mm cone type ×2 each
Tweeter ..... 25mm dome type
Impedance 6Ω
Max.input power 50W
RMS input power..... 20W
External Dimensions .... 132.5(W) × 951.6(H) × 117.2(D) mm each
Weight ..... 2.3Kg each

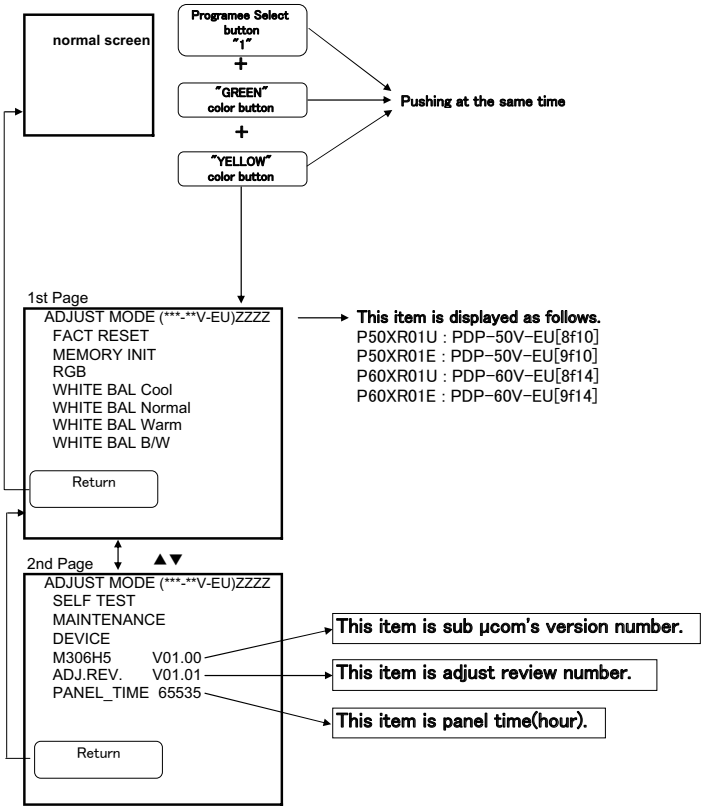
Specifications and design subject to possible modification without notice,due to improvements.

5. Adjustment

・How to get to Adjustment mode

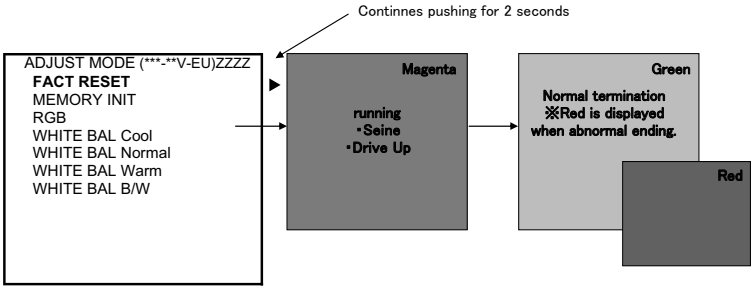
Using the remote controller with the set turned on can activate it.
Press the Programme Select button "1","GREEN"and "YELLOW" colour button at the same time, and hold for more than 3 seconds
The set is displayed adjustment mode.

I show the operation method of each item as follows.



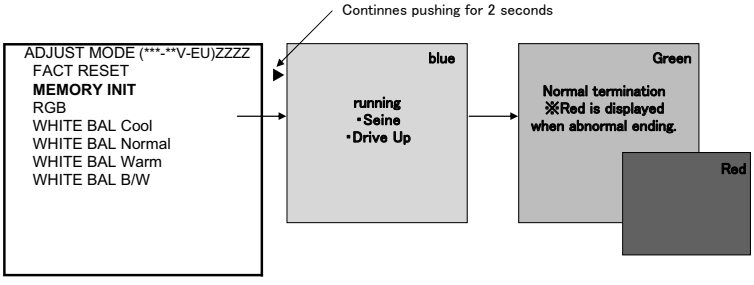
・Various adjustment

FACT RESET **It returns setting at the time of shipment.**



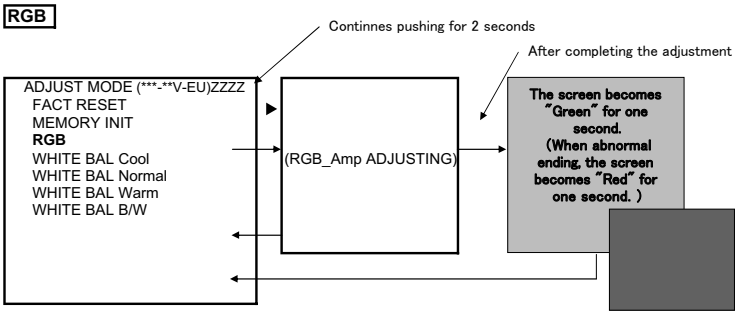
FACTORY RESET
(1)Select [FACT RESET] of the service adjustment menu by [▼] key of remote control.
(2)Press [▶] key of remote control, then Factory Shipping Settings begin.
(3)Magenta is displayed while Factory Shipping Settings operation.
Green is displayed when normal ending.
Red is displayed when abnormal ending.
(4)At the time of the normal end, please do OFF/ON of the main power supply.

MEMORY INIT **When there were instructions, please carry it out.**



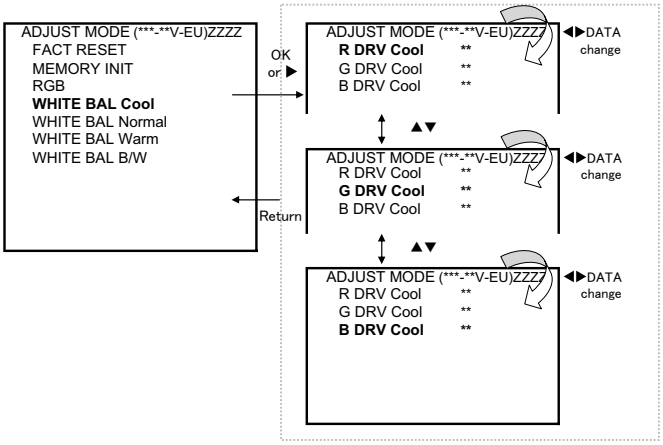
MEMORY INITIALIZE
(1)Select [MEMORY INIT].
(2)MEMORY INITIAL starts by continuing pushing [▶] button for two seconds.
(3)The screen changes into blue when MEMORY INIT start.
The screen changes into green when MEMORY INIT finish normally.
The screen changes into red when MEMORY INIT finish abnormally
(4)At the time of the normal end, please do OFF/ON of the main power supply.
NOTE:The execution of this function returns the adjustment codes to the preset values, therefore, adjustment data will be lost.
When you perform MEMORY INITIALIZE, the following items are not initialized.
・WHITE BLANCE ADJUSTMENT DATA
・SUB CONTRAST ADJUSTMENT DATA
・CLANP OFFSET ADJUSTMENT DATA
But the following items are initialized.
・OTHER ADJUSTMENT DATA
・FACTORY RESET ITEM

RGB



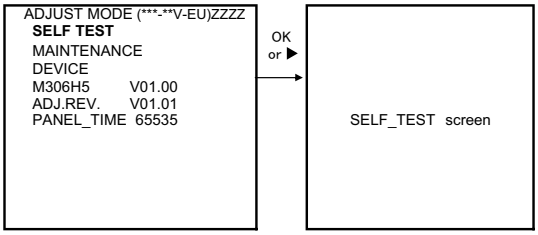
RGB ADJUST
Please refer to page22 in detail.
(1)Select [RGB].
(2)Press [▶] for over 2 seconds then RGB Amplitude Adjustment starts automatically.
(3)OSD disappears while the adjustment is operating.
OSD appears again when the adjustment is completed.

WHITE BAL Cool,Normal,Warm,B/W(Black&White) → **Please refer to page 24&25 in detail.**



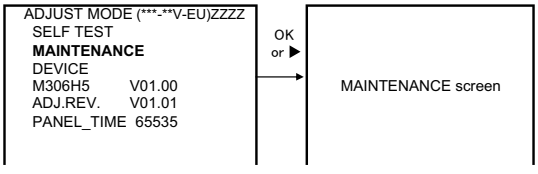
WHITE BAL Cool,Normal,Warm,B/W(Black&White)
Please refer to page24&25 in detail.
(1)Select [WHITE BAL Cool～B/W(Black&White)].
(2)It adjusts it with the [◀▶] button.
(3)When the value is changed, a set value is made a green character.
It returns it to a white character by the memory preservation.

SELF TEST → **Please refer to page 44 in detail.**



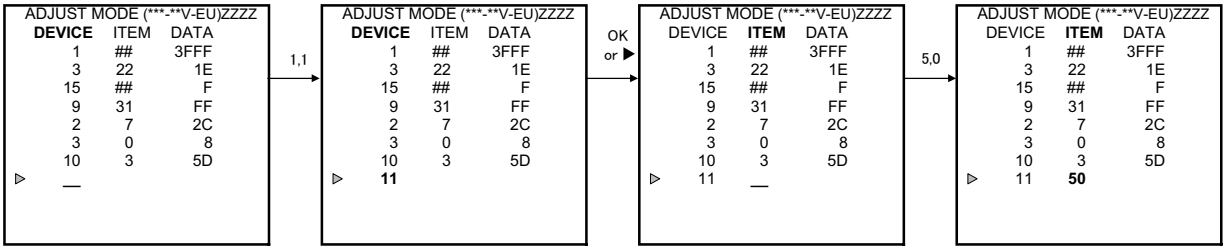
SELF TEST
Please refer to page44 in detail.
(1)Select [SELF TEST].
(2)It enters the self test screen with [▶] or the OK button.

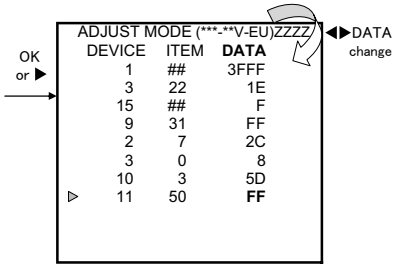
MAINTENANCE → **Please refer to page 18 in detail.**



MAINTENANCE
(1)Select [MAINTENANCE].
(2)It enters the MAINTENANCE screen with [▶] or the OK button.

DEVICE → **Engineer uses only**





DEVICE

(1)Select [DEVICE].

(2)It enters the adjustment screen with [▶] or the OK button.

(3)DEVICE

①The control device is selected with ten keys from "0" to "99".

②DEVICE is fixed with [▶] or the OK button and it changes to ITEM.

③It returns to 2nd page "DEVICE" clearing all input when [◀] or the Return button is pushed.

(4)ITEM

①The adjustment item is selected with ten keys from "0" to "999".

②ITEM is fixed with [▶] or the OK button, and the last adjustment value is displayed at the Write mode, and the reading data is displayed and it changes to DATA at the Read mode.

③It returns to "DEVICE" on this screen clearing the input when [◀] or the returning button is pushed.

(5)DATA

①The Write mode is [◀▶] key and changeable as for the adjustment value. When the OK button is pushed, the adjustment value memory to FLASH.

②The Read mode updates the detection value with the [◀▶] and OK key.

③It returns to "ITEM" on this screen clearing the input when the Return button is pushed.

(6)DEVICE, ITEM, and DATA can be displayed up to eight lines or less.

HDD Check

1. Select a maintenance mode.
2. Next, select HDD.
3. It becomes the HDD check screen and the following items are displayed.
   Total Size: It displays the total capacity of the HDD.
   Used Size: It displays the consumption of the HDD.
   Power-On Hours Count: The electricity time for HDD
   Old Rec. Date: It displays the oldest date when TV recorded it to the HDD.
   New Rec. Date: It displays the newest date when TV recorded it to the HDD.
   Initial Date: It displays the date when TV initialised the HDD.
   SMART Info.: It displays SMART of the HDD.
   HDD Format: When you choose [HDD Format] and push "OK", TV initialises the HDD.
   When initialisation is finished, TV displays it to right side indication as follows.
   Normal end: OK
   Abnormal end: NG
   When you format the HDD, all the data in HDD are deleted.
   HDD Log: You choose [SD] and push "OK", SD card acquire HDD log.

SMART information

[SMART info] displayed information and the poor HDD judgment standard are as follows.
When the behavior of the HDD is doubtful, please refer to this.

No	item	information	indication range	judgment standard
1	Raw Read Error Rate	It displays error rate of the HDD.(decimal)	1~100	There is no problem more than 80.
2	Throughput Performance	It displays Throughput performance.(decimal)	0~200	There is no judgment need.
3	Spin Up Time	It displays Spin Up Time.(decimal)	0~100	There is no problem more than 50.
4	Start/Stop Count	It displays Start/Stop Count.(decimal)	(+)100~(-)100	Zero indication is a life guarantee limit. There is no problem in a plus.
5	Reallocated Sector Count	It displays Reallocated Sector Count.(decimal)	1~100	There is no problem more than 90.
6	Seek Error Rates	It displays Seek Error Rates.(decimal)	1~100	There is no problem more than 80.
7	Seek Time Performance	It displays Seek Time Performance.(decimal)	0~200	There is no problem more than 50.
8	Power-On Hours Count	It displays Power-On Hours Count.(decimal)	(+)100~(-)100	Zero indication is a life guarantee limit. There is no problem in a plus.
9	Spin Retry Count	It displays Spin Retry Count.(decimal)	50~100	There is no problem more than 80.
10	Device Power Cycle Count	It displays Device Power Cycle Count.	1~100	There is no judgment need.
11	Power Off Retract Count	It displays Power Off Retract Count.	(+)100~(-)100	Zero indication is a life guarantee limit. There is no problem in a plus.
12	Load/Unload Cycle Count	It displays Load/Unload Cycle Count.	(+)100~(-)100	Zero indication is a life guarantee limit. There is no problem in a plus.
13	Device Temperature	It displays temperature inside HDD at the ratio with 55 degrees.	253~100	Indication at the time of 100, the HDD inside shows 55 degrees. There is no problem more than 100.
14	Reallocation Event Count	It displays Reallocation Event Count.	1~100	There is no problem more than 90.
15	Corrent Pending Sector Count	It displays Corrent Pending Sector Count.	1~100	There is no problem more than 80.
16	Off-Line Scan Uncorectable Sector Count	It displays Off-Line Scan Uncorectable Sector Count.	1~100	There is no judgment need.
17	Ultra DMA CRC Error Count	It displays Ultra DMA CRC Error Count.	1~200	There is no judgment need.

Upgrading the SD

The procedure as follows.

1. Insert the MMC/SD card on which the firmware was written to the SD slot of the TV.

When obtained from an email and/or a FTP server, a PC and a commercial SD reader/writer are necessary.

2-1 Select [menu] with a wireless remote controller.

2-2 Select [Initial Setup].

2-3 The Main software version will be display Vxxx.xxxx as shown on Fig. 1.

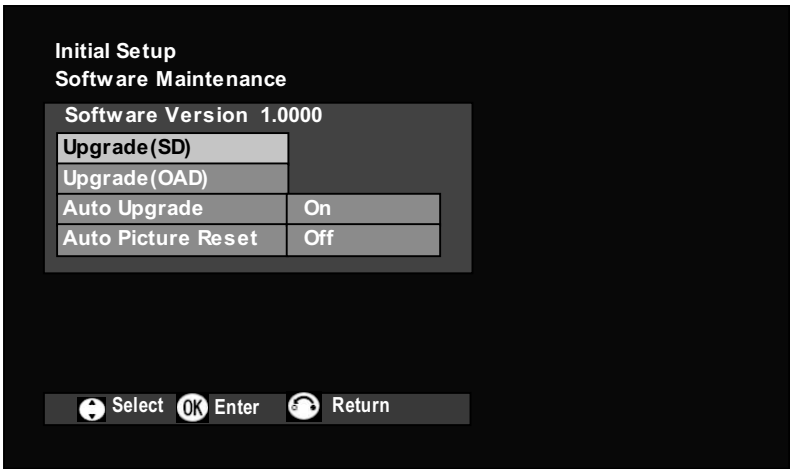


Fig. 1

2-4 Select [Upgrade (SD)].

2-5 Fig.2 will be displayed.

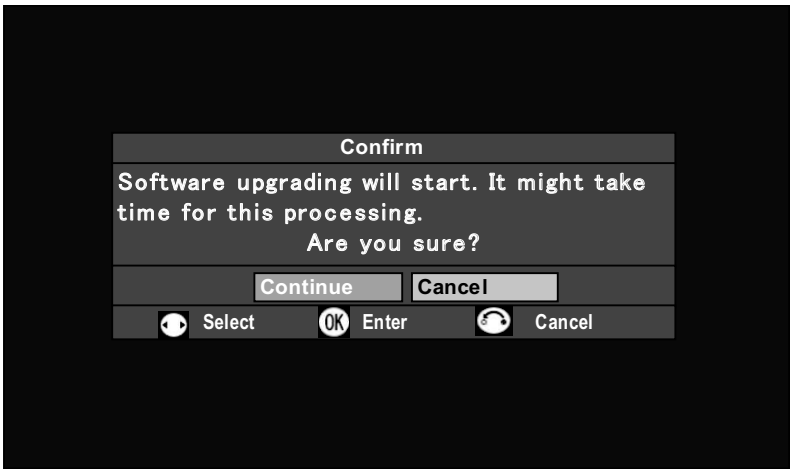


Fig.2

2-6 Select [Continue].

2-7 Fig.3 will be displayed. The upgrading process will continue until the bar is filled.

While upgrading, do not turn off the power.

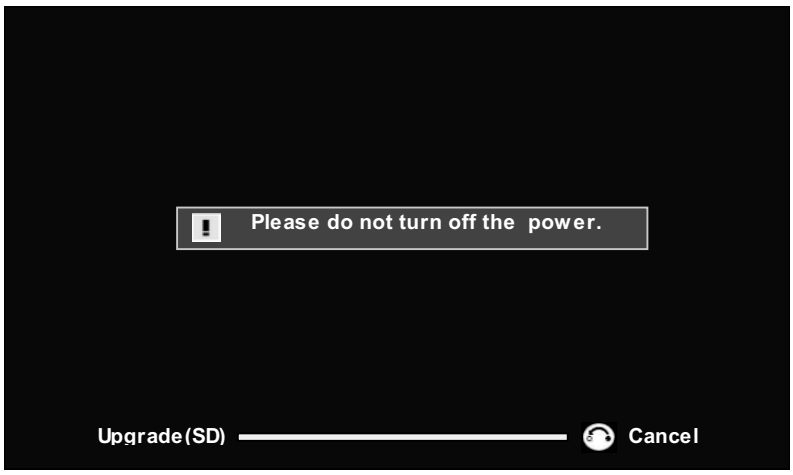


Fig.3

2-8 After upgrade completion, the TV turns off automatically. (Fig.4)

Fig.4

2-9 Upgrade finished. Confirm the new software version.

※ Abnormal Finish Message

(ⅰ) When a CARD is not inserted or accessed

Message : ”Please insert SD card before upgrading.”

(ⅱ) When the version written on the SD card is the same as a present version or old

Message : ”New software was not found.”

(ⅲ h)W hen the SD card was pulled out during the upgrad process or the data from the SD card was not read.

Message : ”Upgrading was failed.”

Reconfirming Vs and Va voltage values on the Power unit

P50XR01U/E and P60XR01U/E do not need adjustment. (Because P50XR01U/E and P60XR01U/E are self-adjusting.)
However, Vs and Va voltages require reconfirming on the Power Unit.
This page explains the reconfirm procedure.

(1) Turn on the TV set and apply pre-heat run more than 1 min on burn-in screen.
(2) Receive full black pattern signal.
(or no video signal; but the power will be automatically turned off after a few seconds by the power save function.)
(3) Connect a voltmeter (which has a tolerance within 0.02V) to between Vs (or Va) test pin and GND test pin on the power unit.
Adjustment Point: Refer to the figure below

Label example

<LOT>N6
Vs=80.0V Va=60.0V
Vw=140.0V Vx=60.0V

Procedures

(1) Check Vs voltage and Va voltage at CN99 test pins.

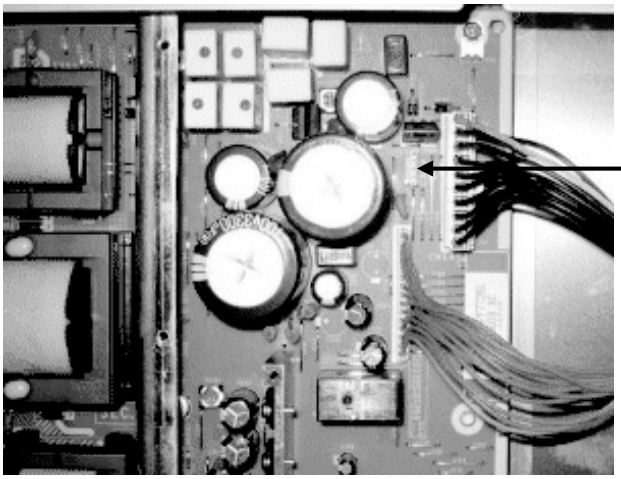
Remarks

(1) Permissible levels of voltage in sufficient time of heat-run performed is as follows.

	50V PDP model	60V PDP model	Reference Voltage
Vs	within±1.5V	within±3.0V	Voltage described in the label on the PDP panel
Va	within±1.0V	within±1.0V	

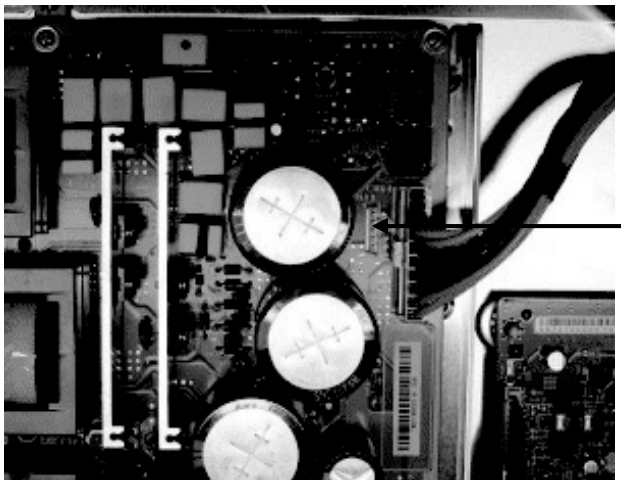
If it is difficult to read the voltage value because of the wiring positions, make a note using a marker in a visible space in advance.

[50V PDP]



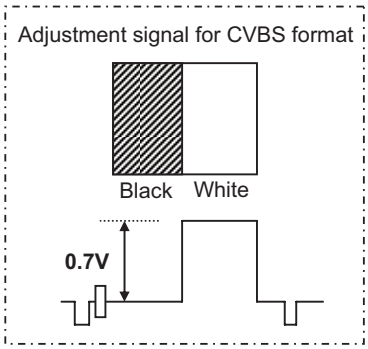
CN99 : Vs/Va test pins
① Va
② Vs
③ NC
④ NC
⑤ GND

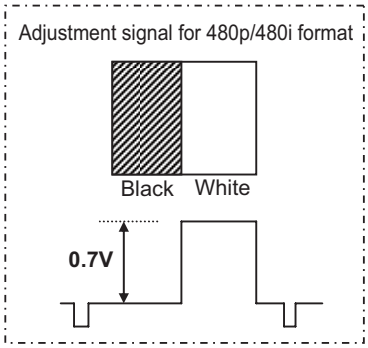
[60V PDP]



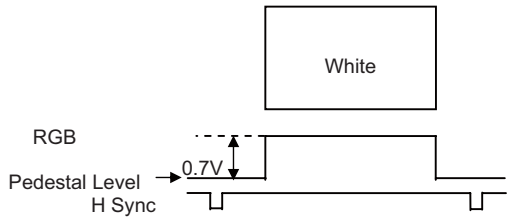
CN99 : Vs/Va test pins
① Va
② Vs
③ NC
④ NC
⑤ GND

RGB Amplitude Adjustment (AV Component Input)

Item	Composite video Adjustment		
Preparation		Procedure	
(1)	Apply heat-run to the set for more than 20 mins before the final adjustment.	(1)	Receive composite video adjustment signal at AV1 terminal input. Characters must not be inserted into both patterns of Black and White.
(2)	Input composite video adjustment signal into AV1 terminal. 	(2)	Go into Service Adjustment Menu and select “RGB”.
		(3)	Press [►] for over 2 seconds then RGB Amplitude Adjustment starts automatically. OSD disappears while the adjustment is operating. OSD appears again when the adjustment is completed.

Item	Component 480p/480i Adjustment		
Preparation		Procedure	
(1)	Apply heat-run to the set for more than 20 mins before the final adjustment.	(1)	Next, receive 480p adjustment signal at AV4 terminal input. Characters must not be inserted into both patterns of Black and White.
(2)	Input component 480p adjustment signal into AV4 terminal. 	(2)	Go into Service Adjustment Menu and select “RGB”.
		(3)	Press [►] for over 2 seconds then RGB Amplitude Adjustment starts automatically. OSD disappears while the adjustment is operating. OSD appears again when the adjustment is completed.
		(4)	Change signal formal from 480p to 480i.
		(5)	Press [►] for over 2 seconds again, then RGB Amplitude Adjustment starts automatically. OSD disappears while the adjustment is operating. OSD appears again when the adjustment is completed.

PC input Adjustment

Item	PC input Adjustment		
Preparation		Procedure	
(1)	Apply heat-run to the set for more than 20 mins before the final adjustment.	(1)	Receive the PC adjustment signal at PC input terminal. Characters must not be inserted into both patterns of Black and White.
(2)	Input PC VGA adjustment signal into PC input terminal.		 Fig. Adjustment signal for PC format
		(2)	Go into Service Adjustment Menu and select “RGB”.
		(3)	Press [►] for over 2 seconds then RGB Amplitude Adjustment starts automatically. OSD disappears while the adjustment is operating. OSD appears again when the adjustment is completed.

Video Colour Temperature Adjustment

Item	Video Colour Temperature Adjustment (Cool)		
Preparation		Procedure	
(1)	Set the signal generator output to white raster. (Window ratio: 100%)	(1)	Perform the following adjustment with the remote control.
(2)	Component signal (576i or 480i) Video level: 0.700Vp-p Sync level: 0.300Vp-p Setup level: 0V	(2)	Set the CRT colour analyzer (CA-100) at the centre of the panel.
(3)	Input white raster signal into AV4 Component input terminal.	(3)	Set colour temperature to “Cool”.
(4)	Set Picture Menu to Natural mode.	(4)	Ensure that the adjustment R/G/B DRIVE (COOL) is all set as 255. If the values are not 255, set them to 255.
(5)	Check that the mode is set as Factory Adjustment mode.	(5)	Receive white raster signal. And step down either of R DRV_COOL, G DRV_COOL or B DRV_COOL of the two (or, one) values and adjust to the following value. (Note) At least one of the data should be 255. Specification Video colour temperature (Cool) x=0.266±0.005 y=0.270±0.005 14000K + 0MPCD
(6)	Set aspect to Full mode.		

[Remarks]
(1) Colour temperature should be adjusted under the condition in which the screen is the brightest, thus the initial value of adjustment is set at maximum.
(2) This adjustment only degreases brightness.
(3) Beware there is RESET in each of Picture mode.

Item	Video Colour Temperature Adjustment (Normal)		
Preparation		Procedure	
(1)	Set the signal generator output to white raster. (Window ratio: 100%)	(1)	Perform the following adjustment with the remote control.
(2)	Component signal (576i or 480i) Video level: 0.700Vp-p Sync level: 0.300Vp-p Setup level: 0V	(2)	Set the CRT colour analyzer (CA-100) at the centre of the panel.
(3)	Input white raster signal into AV4 Component input terminal.	(3)	Set colour temperature to “Normal”.
(4)	Set Picture Menu to Natural mode.	(4)	Ensure that the adjustment R/G/B DRIVE (NORMAL) is all set as 255. If the values are not 255, set them to 255.
(5)	Check that the mode is set as Factory Adjustment mode.	(5)	Receive white raster signal. And step down either of R DRV_NORMAL, G DRV_NORMAL or B DRV_NORMAL of the two (or, one) values and adjust to the following value. (Note) At least one of the data should be 255. Specification Video colour temperature (Normal) x=0.285±0.005 y=0.293±0.005 9300K + 0MPCD
(6)	Set aspect to Full mode.		

[Remarks]
(1) Colour temperature should be adjusted under the condition in which the screen is the brightest, thus the initial value of adjustment is set at maximum.
(2) This adjustment only degreases brightness.
(3) Beware there is RESET in each of Picture mode.

Item	Video Colour Temperature Adjustment (Warm)		
Preparation		Procedure	
(1)	Set the signal generator output to white raster. (Window ratio: 100%)	(1)	Perform the following adjustment with the remote control.
(2)	Component signal (576i or 480i) Video level: 0.700Vp-p Sync level: 0.300Vp-p Setup level: 0V	(2)	Set the CRT colour analyzer (CA-100) at the centre of the panel.
(3)	Input white raster signal into AV4 Component input terminal.	(3)	Set colour temperature to “Warm”.
(4)	Set Picture Menu to Natural mode.	(4)	Ensure that the adjustment R/G/B DRIVE (WARM) is all set as 255. If the values are not 255, set them to 255.
(5)	Check that the mode is set as Factory Adjustment mode.	(5)	Receive white raster signal. And step down either of R DRV_WARM, G DRV_WARM or B DRV_WARM of the two (or, one) values and adjust to the following value.
(6)	Set aspect to Full mode.		(Note) At least one of the data should be 255.
			Specification Video colour temperature (Warm) x=0.314±0.005 y=0.323±0.005 6500K + 0MPCD

[Remarks]
(1) Colour temperature should be adjusted under the condition in which the screen is the brightest, thus the initial value of adjustment is set at maximum.
(2) This adjustment only degreases brightness.
(3) Beware there is RESET in each of Picture mode.

Item	Video Colour Temperature Adjustment (B&W)		
Preparation		Procedure	
(1)	Set signal generator output as All White. (Window ratio: 100%)	(1)	Perform the following adjustment with remote control.
(2)	Component signal (480i) Video level: 0.700Vp-p Sync level: 0.300Vp-p Setup level: 0V	(2)	Set the CRT Colour Analyzer (CA-100) at the centre of the panel.
(3)	Input white raster signal into AV4 Component input terminal.	(3)	Set colour temperature to “Black&White”.
(4)	Set Picture Menu to Natural mode.	(4)	Ensure that the adjustment R/G/B DRIVE (B/W) is all set as 255. If the values are not 255, set them to 255.
(5)	Check that the mode is set as Factory Adjustment mode.	(5)	Receive white raster signal. And step down either of R DRV_B/W, G DRV_B/W or B DRV_B/W of the two (or, one) values and adjust to the following value.
(6)	Set aspect to Full mode.		(Note) At least one of the data should be 255.
			Specification Video colour temperature (B/W) x=0.335±0.005 y=0.343±0.005 5400K + 0MPCD

[Remarks]
(1) Colour temperature should be adjusted under the condition in which the screen is the brightest, thus the initial adjustment value is set at maximum.
(2) This adjustment only degreases brightness.
(3) Beware there is RESET in each of Picture mode.

6. Troubleshooting

● Burn-in mode

This mode displays test patterns of a single colour raster in turn. These signals are from the built-in generator of the panel. So it can be presumed that the panel has a problem when the screen of Burn-in mode is abnormal.

Using the remote control with the set turned on can activate the mode.

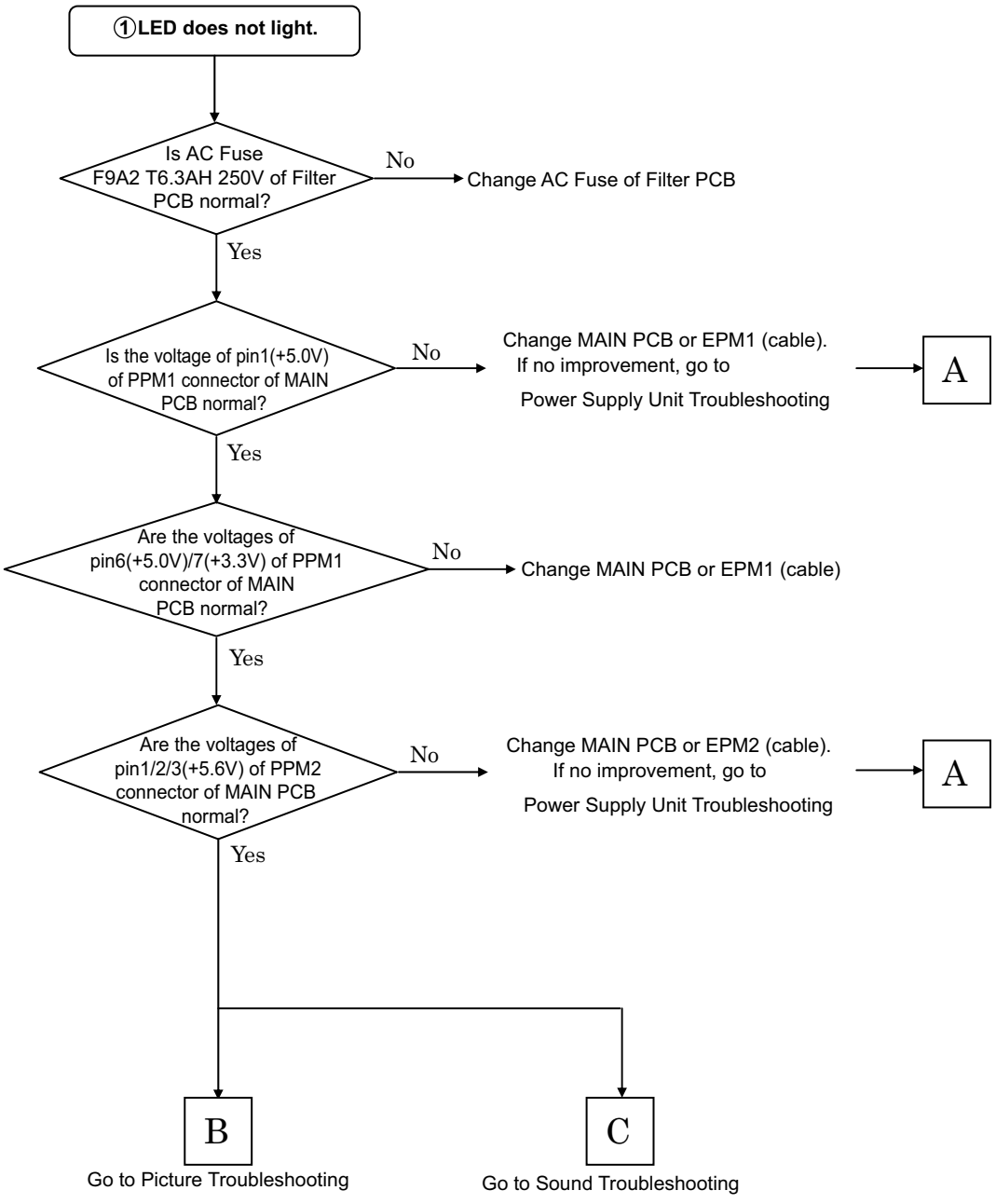
Press the “MENU”, “recall”, “9”, “OK” in turn for less than 2 seconds.

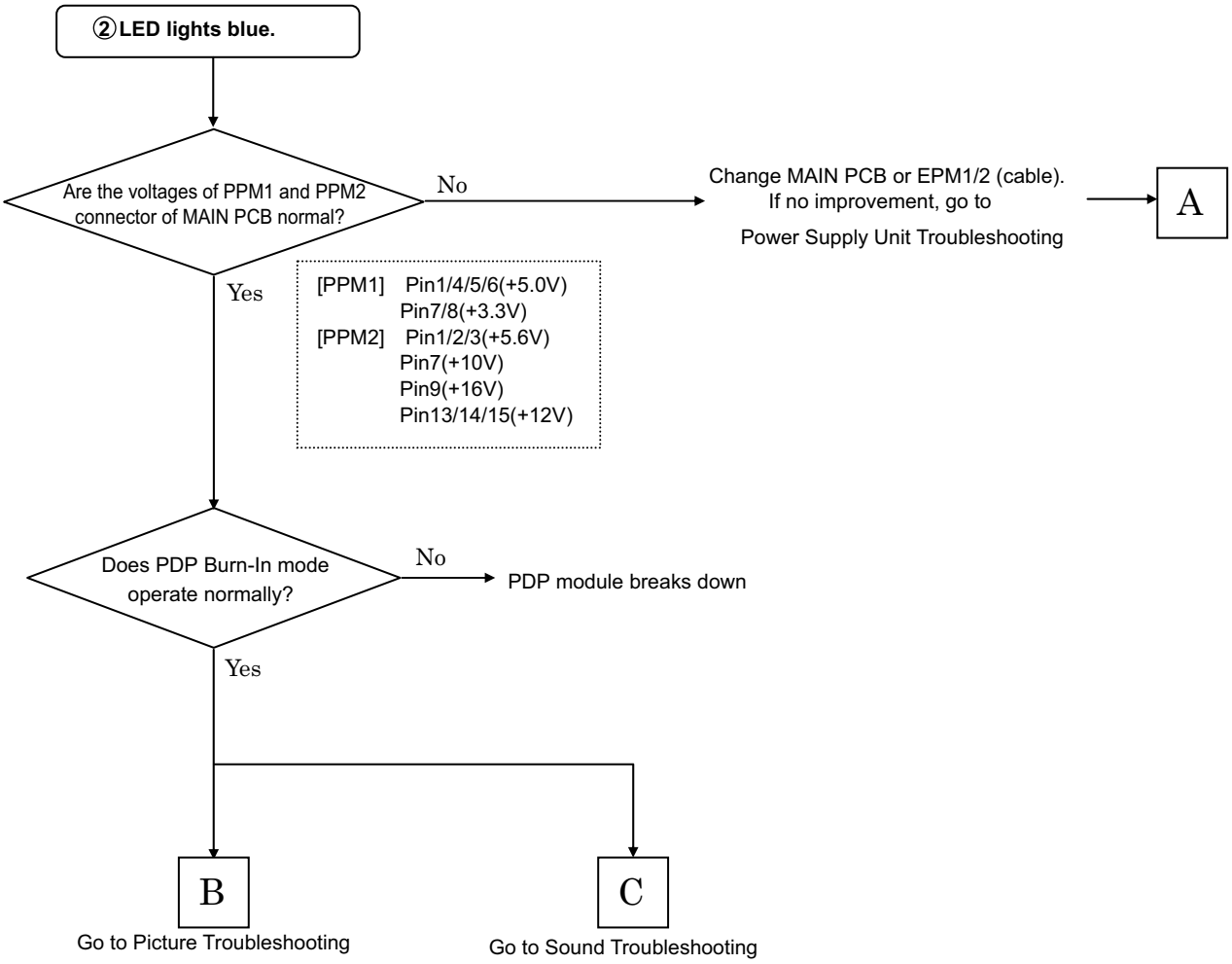
The set turns on with single colour raster and the OSD off [BURN IN: ON].

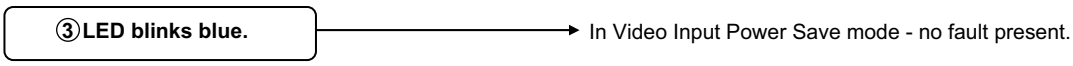
To escape from this mode, press the “MENU”, “recall”, “9”, “OK” in turn for less than 2 seconds.

[No picture, No sound]

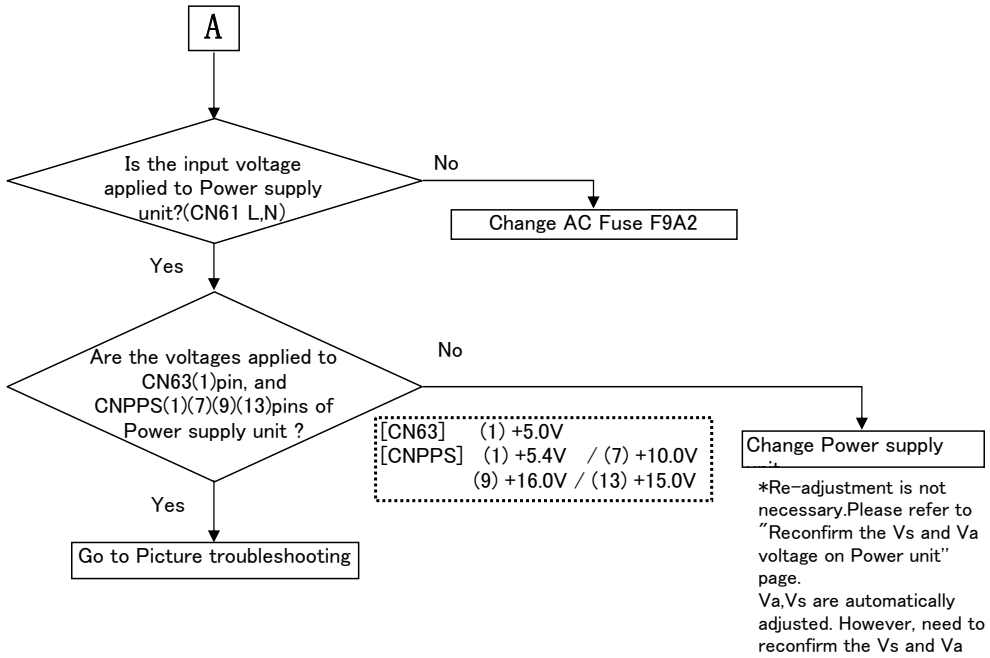
Confirm a state of LED and examine according to the following Flowcharts:




②LED lights blue.
Are the voltages of PPM1 and PPM2 connector of MAIN PCB normal?
No
Change MAIN PCB or EPM1/2 (cable).
If no improvement, go to
Power Supply Unit Troubleshooting
A
Yes
[PPM1] Pin1/4/5/6(+5.0V)
Pin7/8(+3.3V)
[PPM2] Pin1/2/3(+5.6V)
Pin7(+10V)
Pin9(+16V)
Pin13/14/15(+12V)
Does PDP Burn-In mode operate normally?
No
PDP module breaks down
Yes
B
Go to Picture Troubleshooting
C
Go to Sound Troubleshooting

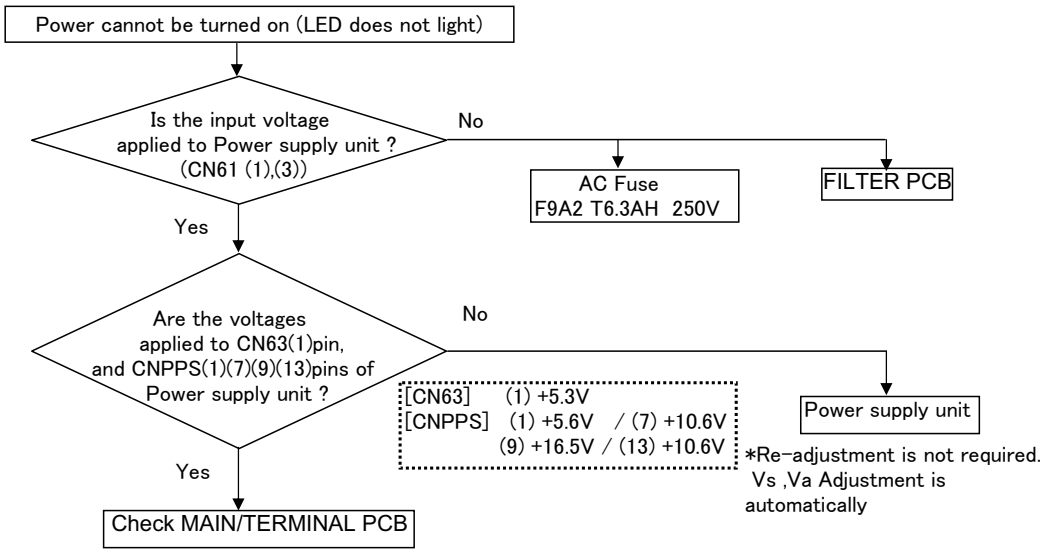

③LED blinks blue.
In Video Input Power Save mode - no fault present.

[50PDP Power unit]



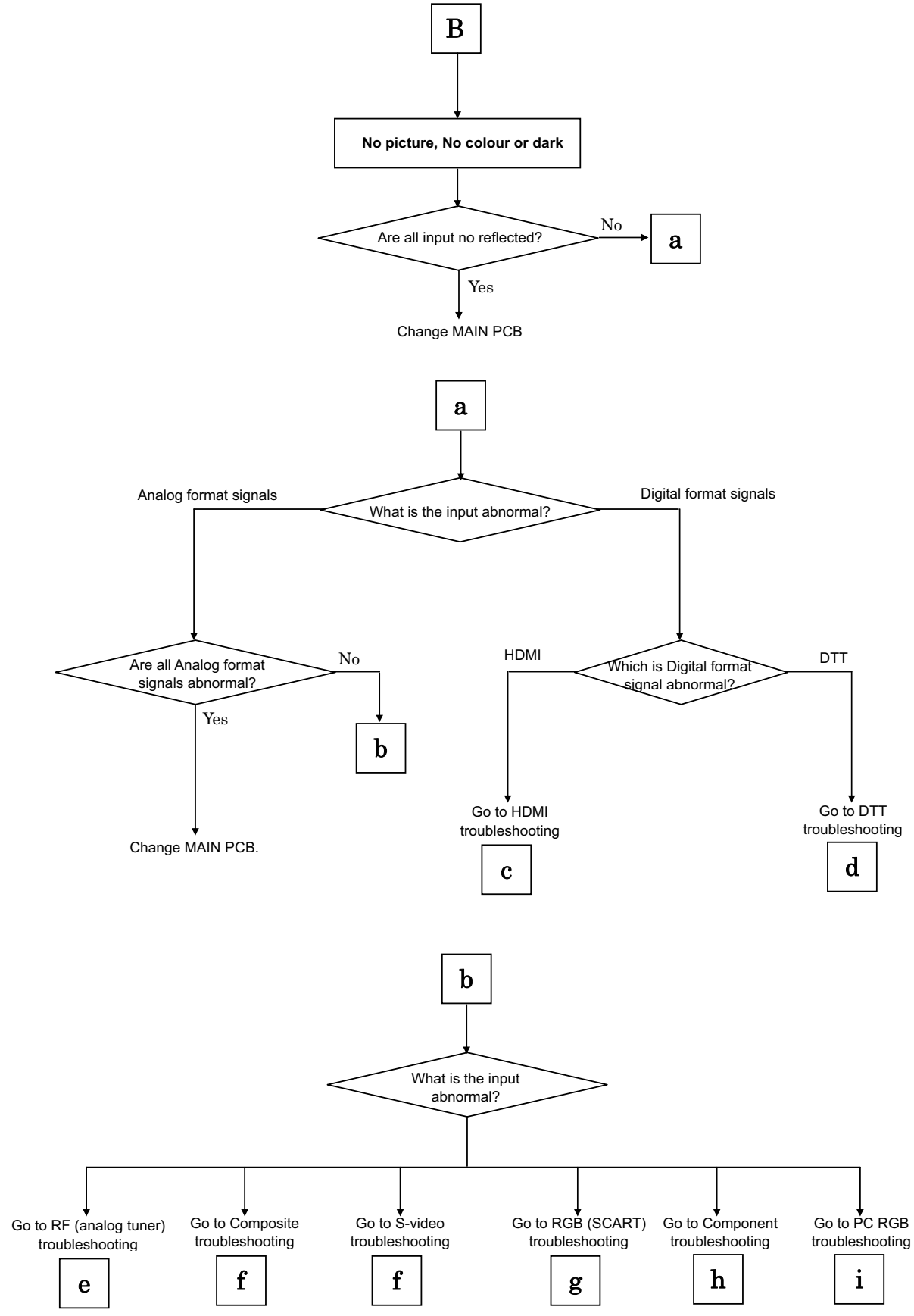
Caution: When taking off a PPU1 connector.
At first take off the filter board and pull up PPU1 connector.

Power

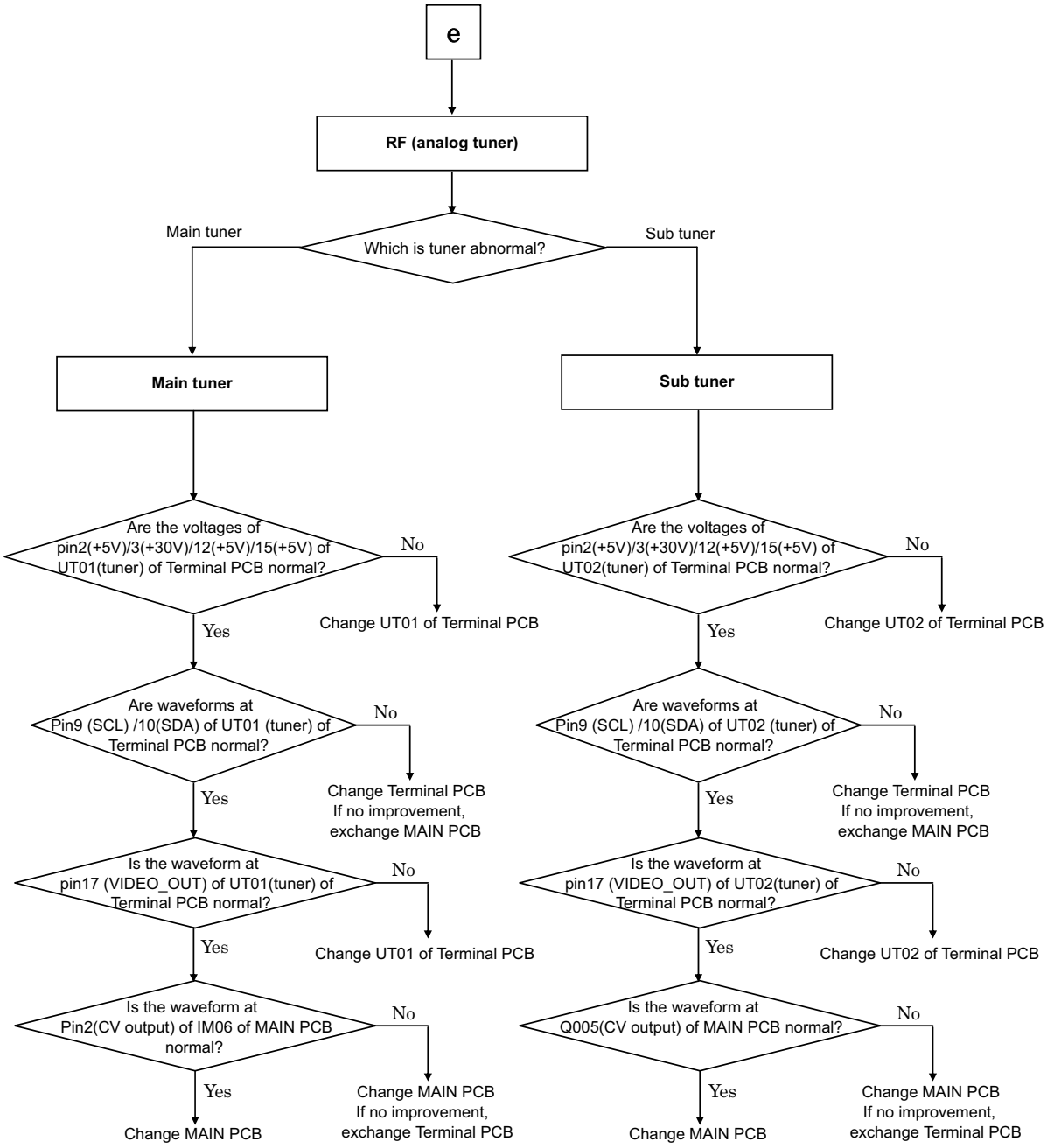


Caution: When taking off a PPU1 connector.
At first take off the filter board and pull up PPU1 connector.

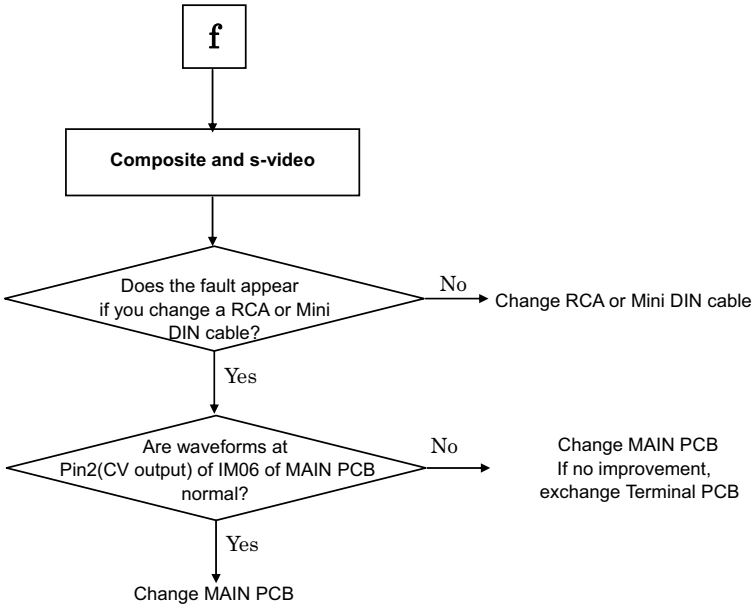
[Picture troubleshooting]



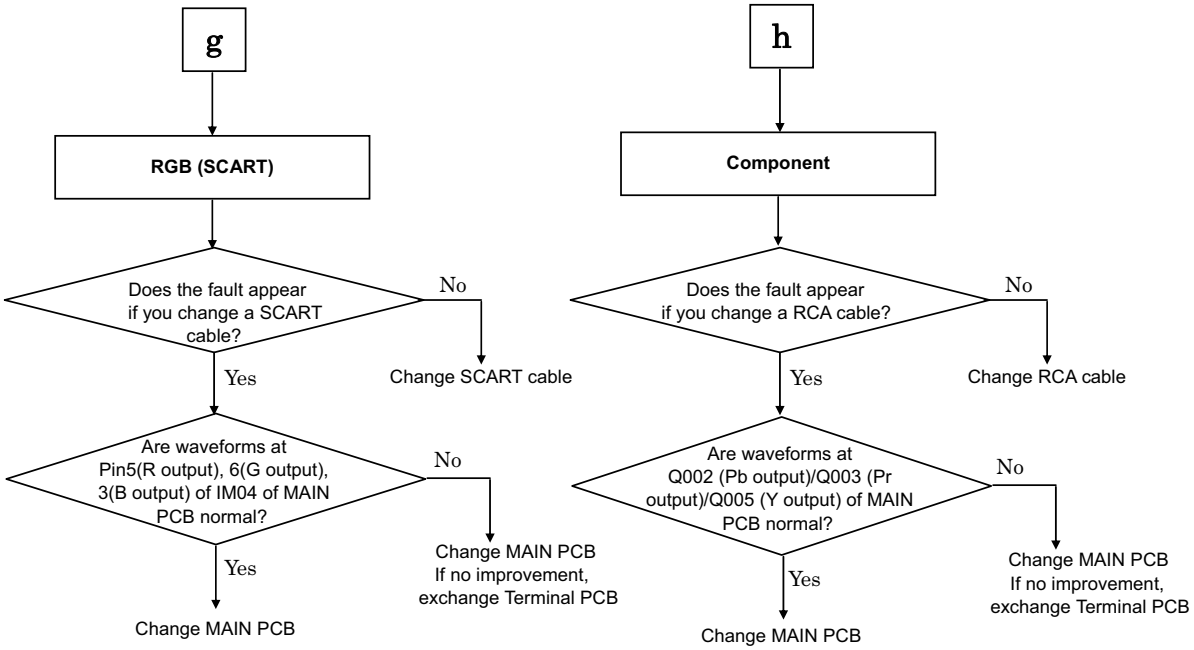
[Picture: RF (analog) troubleshooting]



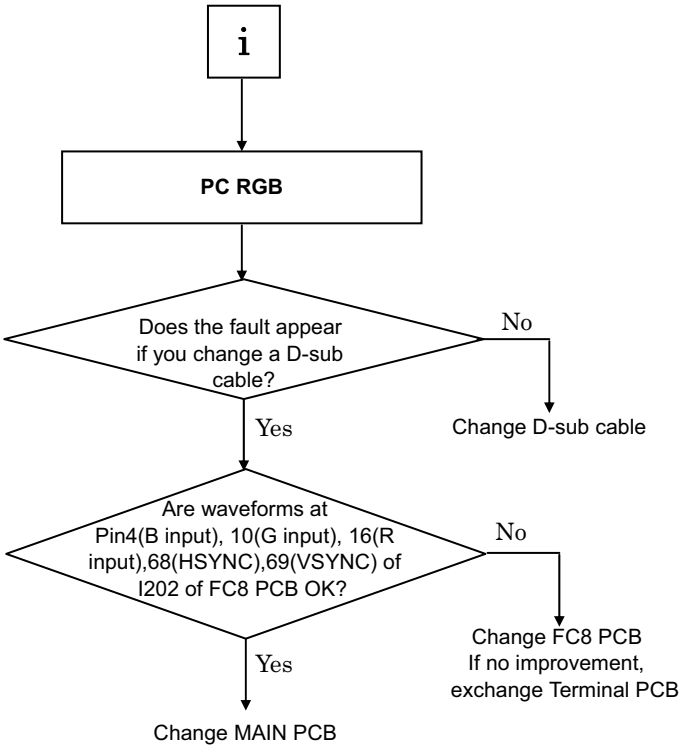
[Picture: composite & S-video troubleshooting]



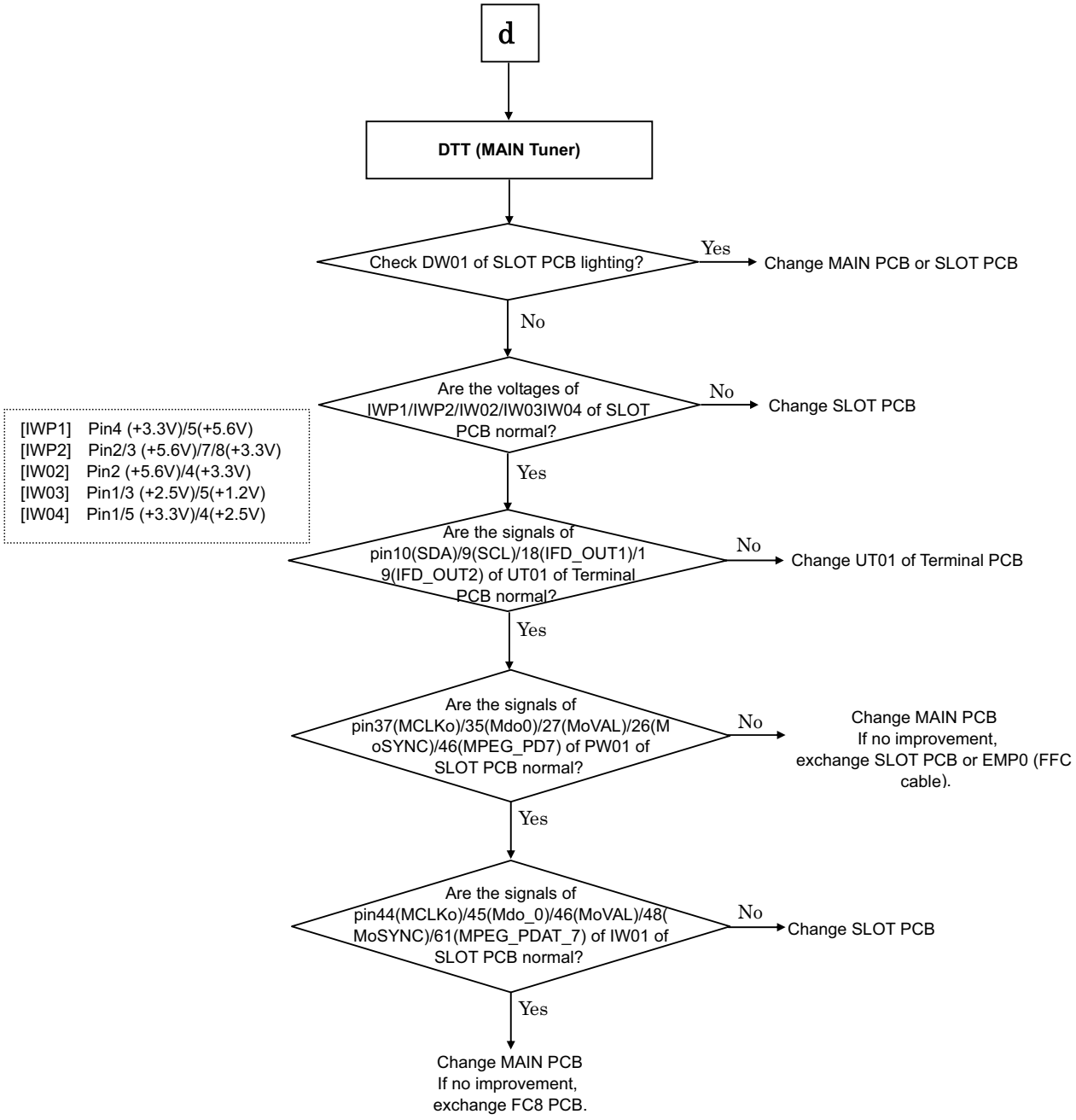
[Picture: RGB (SCART) & component troubleshooting]

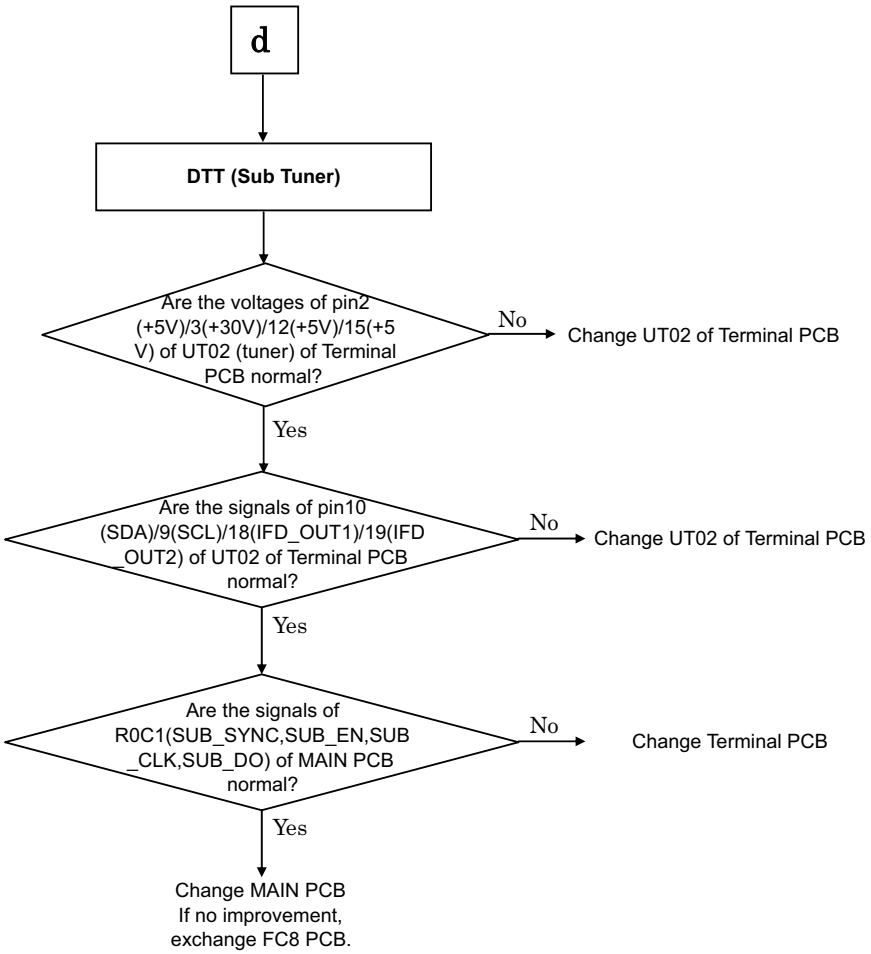


[Picture: PC RGB troubleshooting]

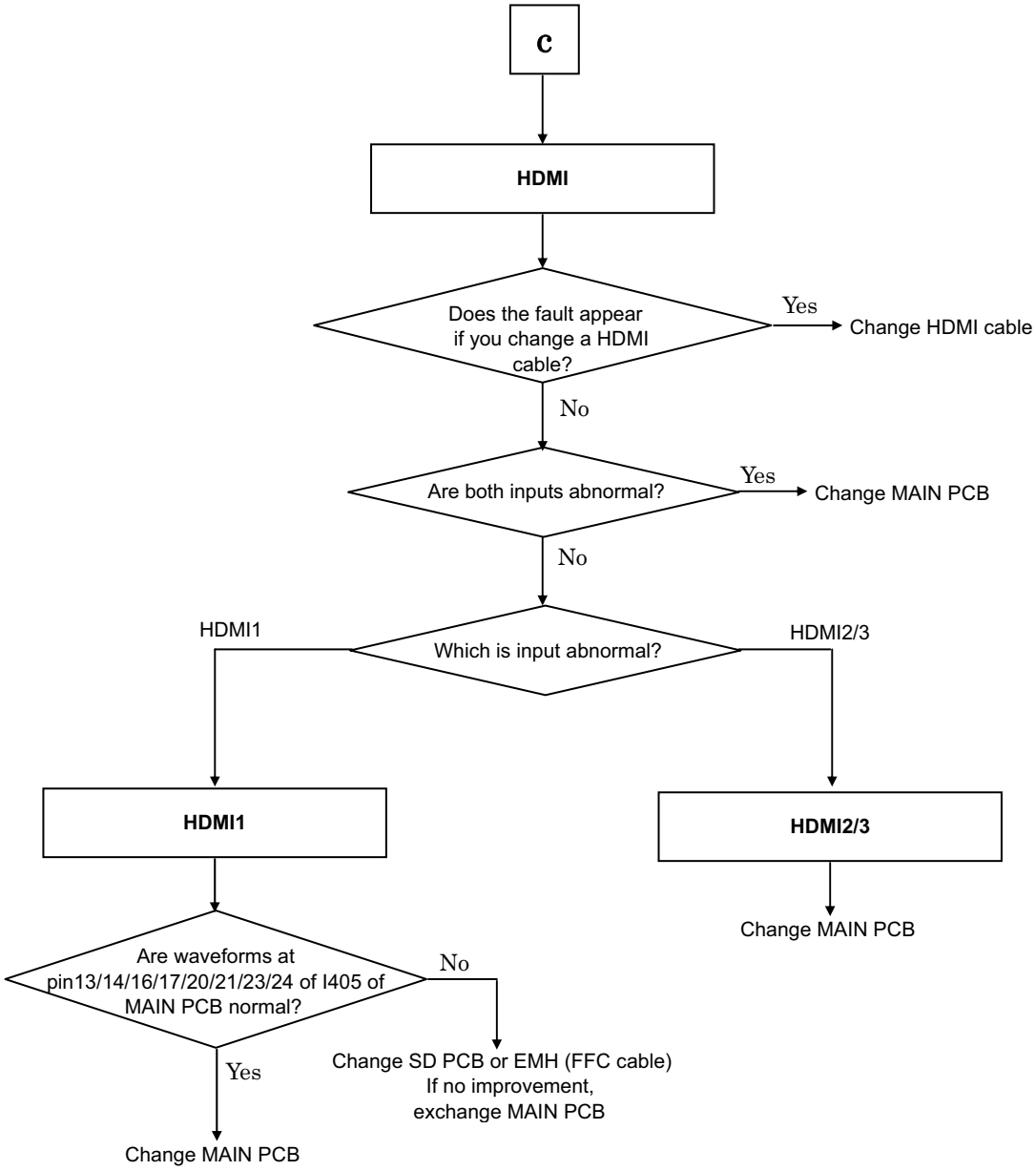


[Picture: DTT troubleshooting]

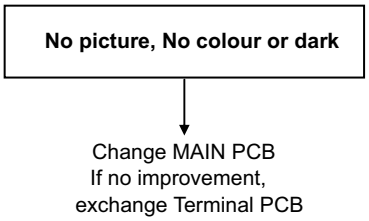



d
DTT (Sub Tuner)
Are the voltages of pin2 (+5V)/3(+30V)/12(+5V)/15(+5 V) of UT02 (tuner) of Terminal PCB normal?
No
Change UT02 of Terminal PCB
Yes
Are the signals of pin10 (SDA)/9(SCL)/18(IFD_OUT1)/19(IFD _OUT2) of UT02 of Terminal PCB normal?
No
Change UT02 of Terminal PCB
Yes
Are the signals of R0C1(SUB_SYNC,SUB_EN,SUB _CLK,SUB_DO) of MAIN PCB normal?
No
Change Terminal PCB
Yes
Change MAIN PCB
If no improvement,
exchange FC8 PCB.

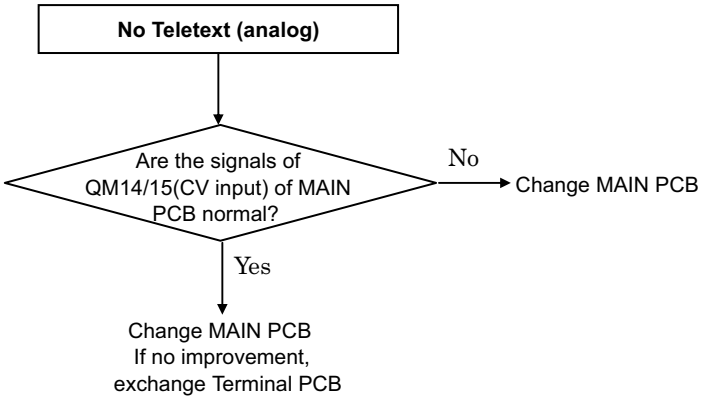
[Picture: HDMI troubleshooting]



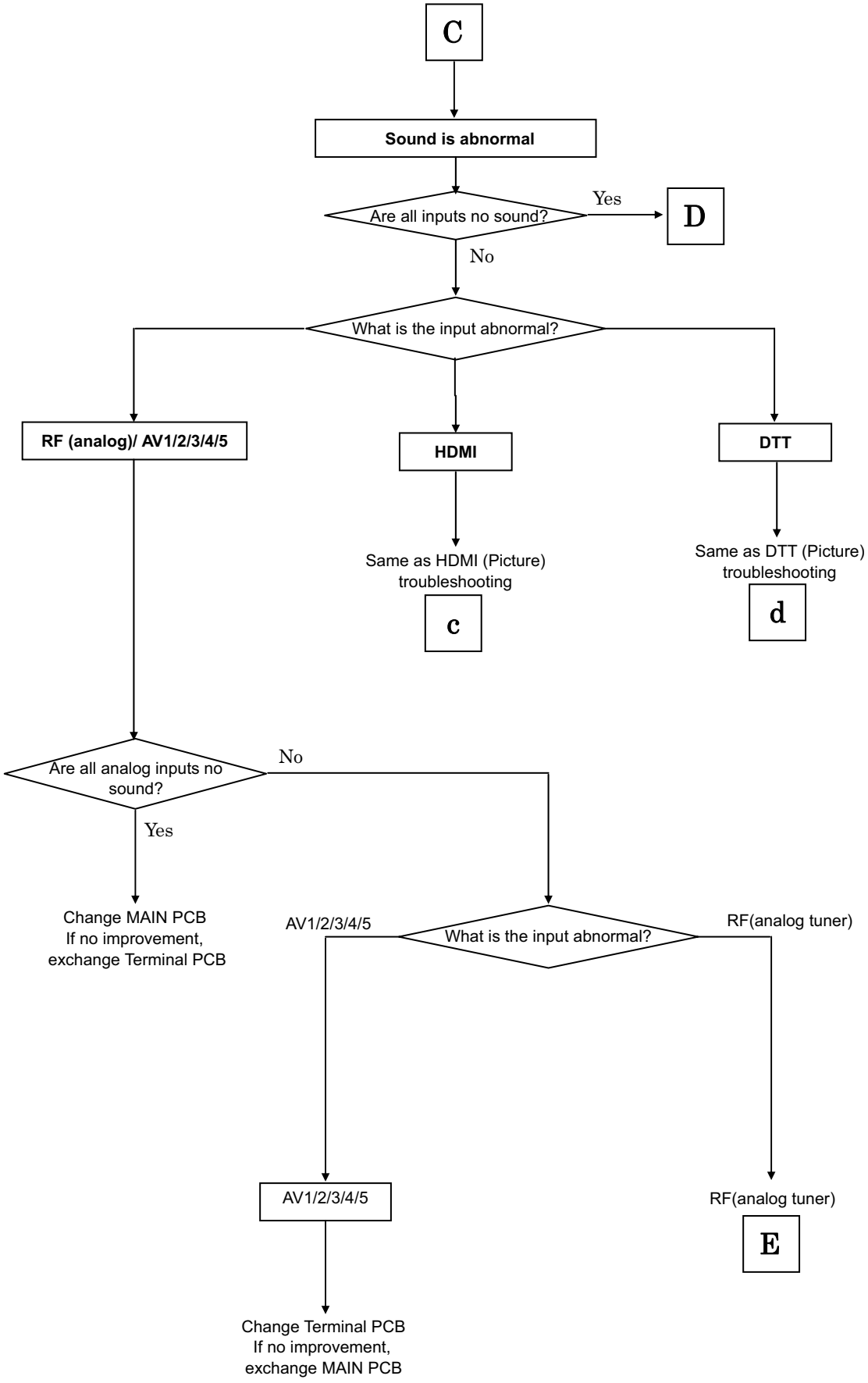
[Sub Picture troubleshooting]

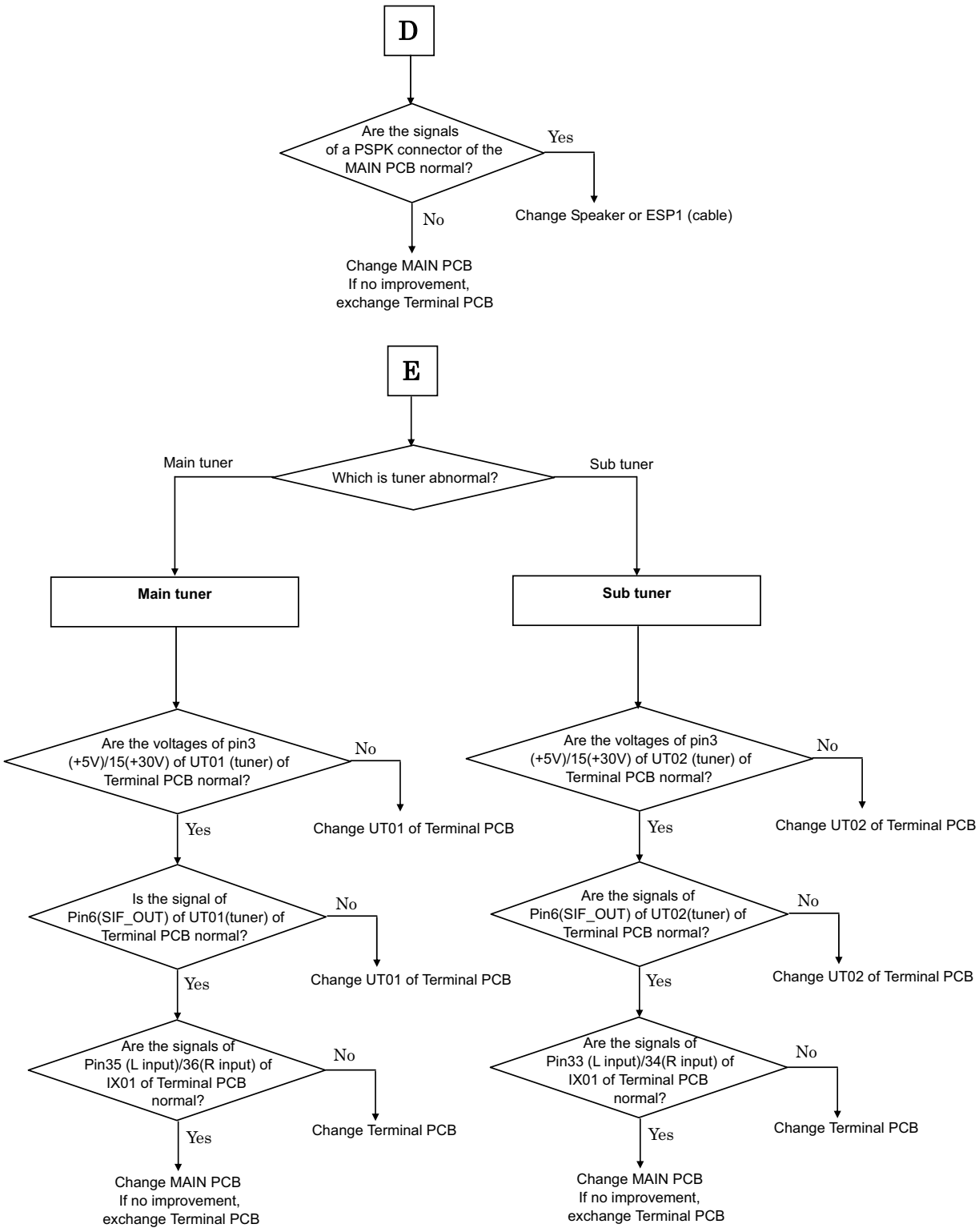


[Teletext troubleshooting]

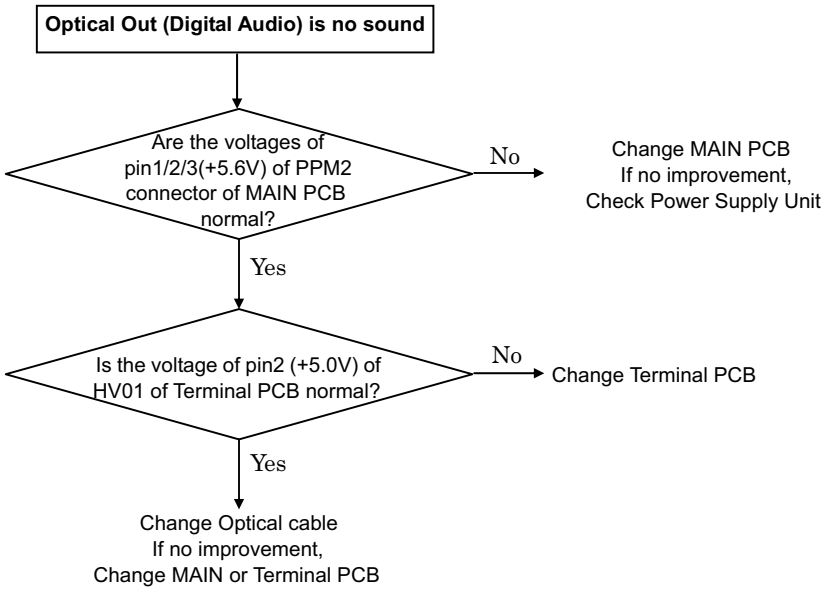


[Sound troubleshooting]

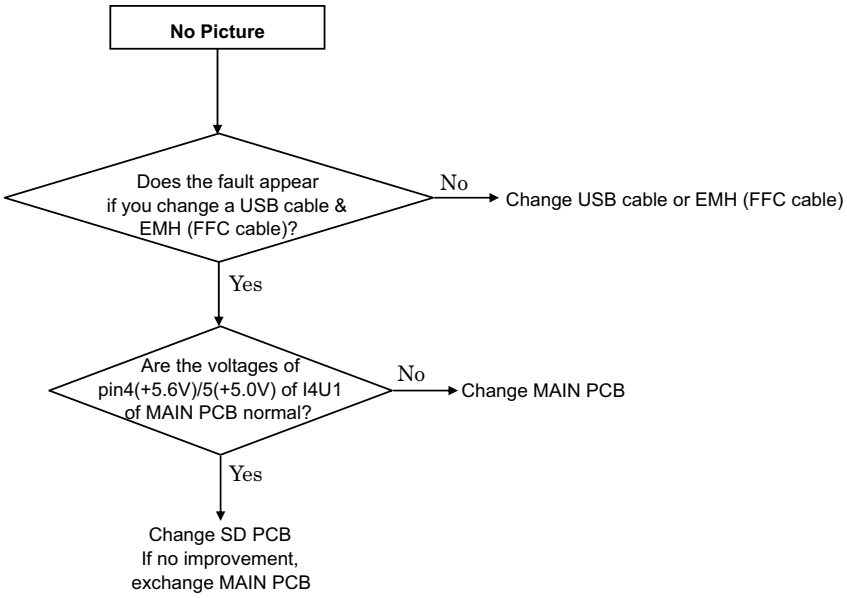



D
Are the signals of a PSPK connector of the MAIN PCB normal?
Yes
Change Speaker or ESP1 (cable)
No
Change MAIN PCB
If no improvement, exchange Terminal PCB
E
Which is tuner abnormal?
Main tuner
Sub tuner
Main tuner
Sub tuner
Are the voltages of pin3 (+5V)/15(+30V) of UT01 (tuner) of Terminal PCB normal?
No
Change UT01 of Terminal PCB
Yes
Are the voltages of pin3 (+5V)/15(+30V) of UT02 (tuner) of Terminal PCB normal?
No
Change UT02 of Terminal PCB
Yes
Is the signal of Pin6(SIF_OUT) of UT01(tuner) of Terminal PCB normal?
No
Change UT01 of Terminal PCB
Yes
Are the signals of Pin6(SIF_OUT) of UT02(tuner) of Terminal PCB normal?
No
Change UT02 of Terminal PCB
Yes
Are the signals of Pin35 (L input)/36(R input) of IX01 of Terminal PCB normal?
No
Change Terminal PCB
Yes
Change MAIN PCB
If no improvement, exchange Terminal PCB
Are the signals of Pin33 (L input)/34(R input) of IX01 of Terminal PCB normal?
No
Change Terminal PCB
Yes
Change MAIN PCB
If no improvement, exchange Terminal PCB

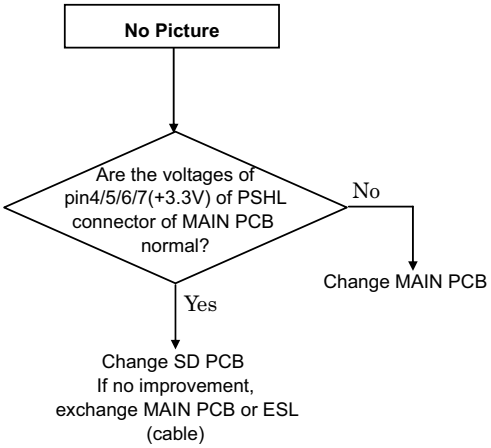
[Optical Out (Digital Audio) troubleshooting]



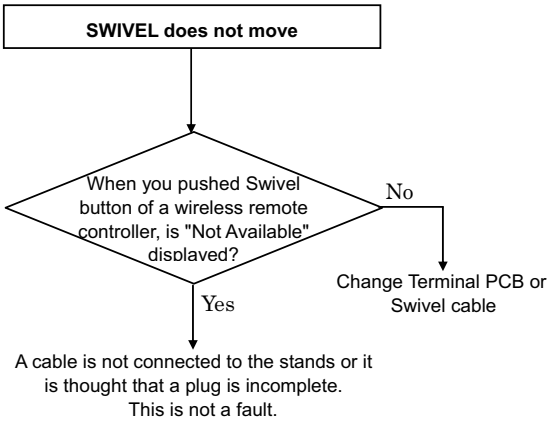
[USB troubleshooting]



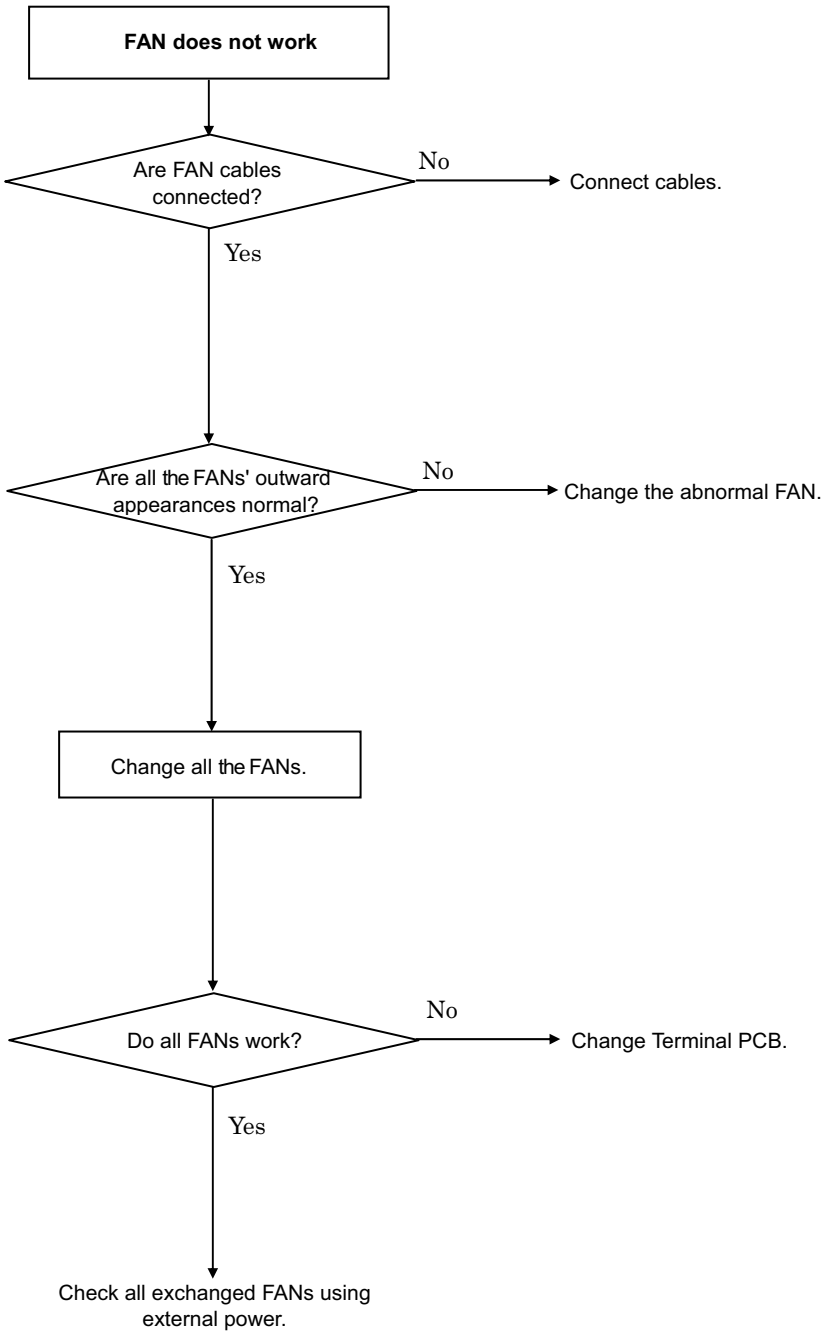
[SD Card troubleshooting]



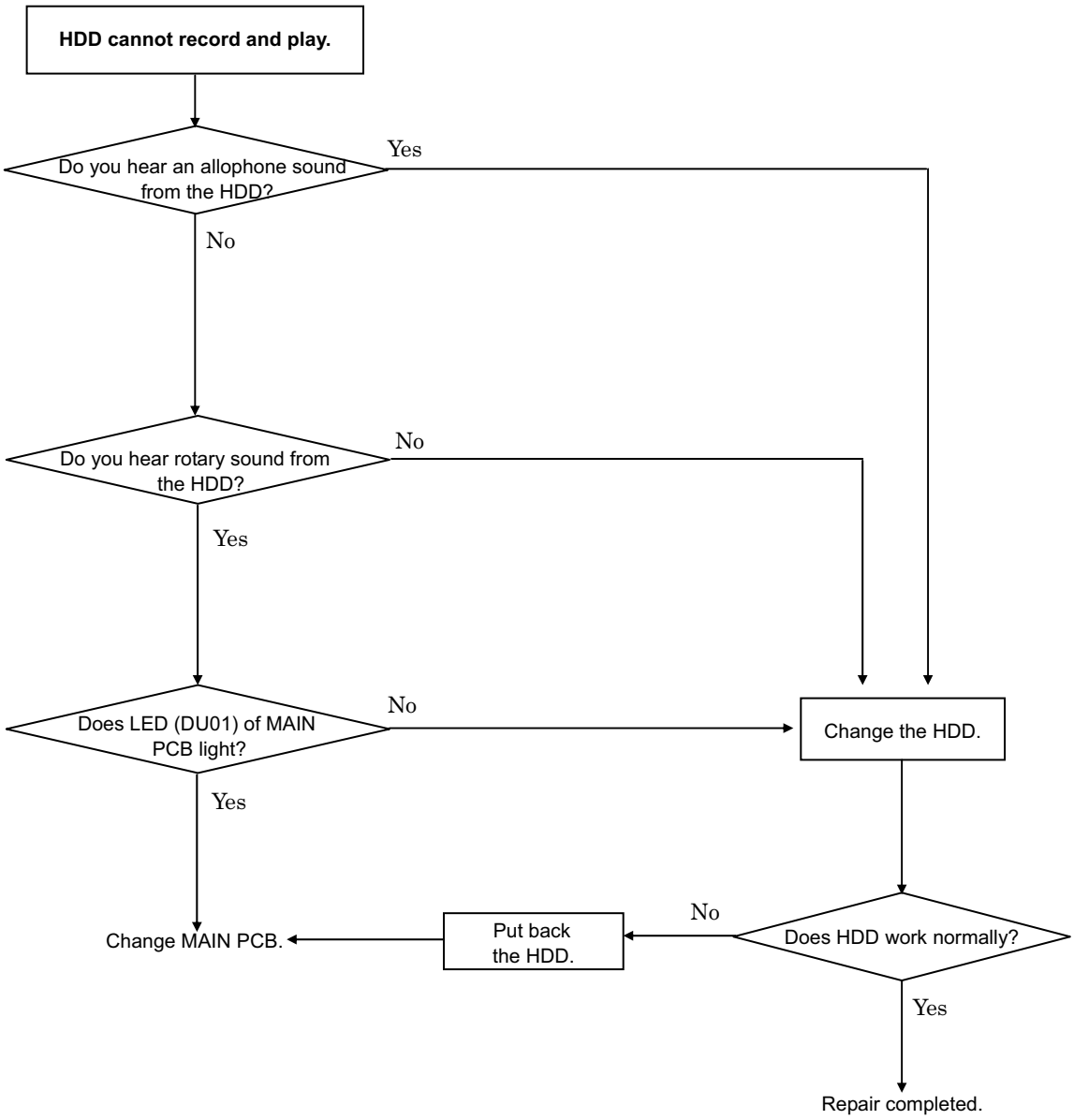
[SWIVEL troubleshooting (Only 50V Model)]



[FAN troubleshooting]



[HDD troubleshooting]



7. Self-Diagnosis Function

● PDP panel self-diagnosis function

This function is for a PDP panel failure with no picture.
It is automatically self-diagnosed that the panel failure occurs.
It is shown by power indicator light blinks (blue).

The next table shows the PDP PCB in which failure most probably would be indicated according to the number of blinks.

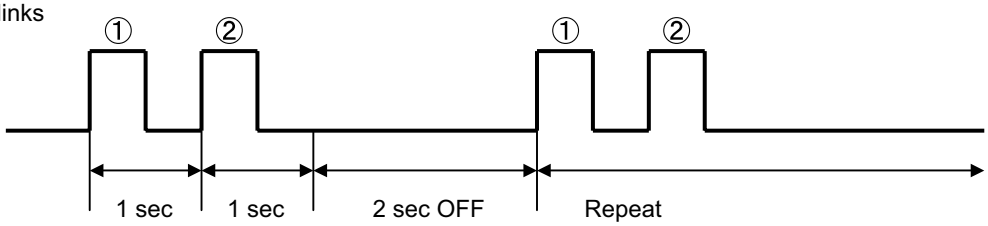
Number of blue blinks of power indicator light	Presumed failing PCB of PDP panel
1	Logic
2	X-SUS
3	Y-SUS, SDM
4	X-SUS, Y-SUS, SDM, PSU
5	ABUS, ADM, PSU
6	ADM temperature
7	ADM temperature
8	All of above-mentioned PCBs

SDM: Scan Driver Module
PSU: Power Supply Unit
ABUS: Address Bus Module
ADM: Address Driver Module

Note) SDM is in permanent contact with glass part.

[Number of blinks power indication light]

Ex. 2 blinks



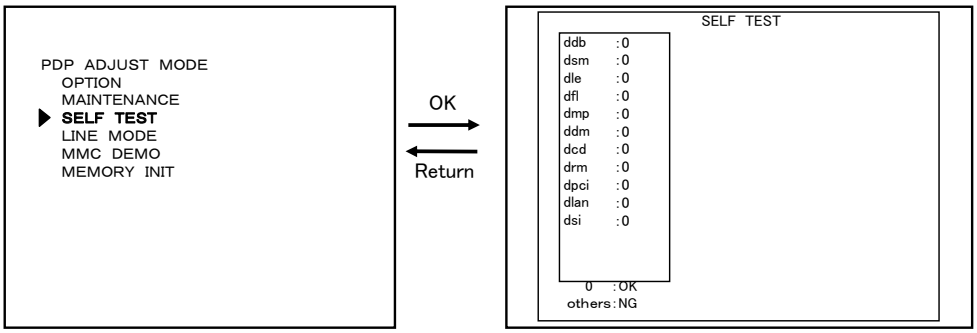
Note)
1) Main Power switch-off operation cancels the Self-Diagnosis mode.
2) Priority is given whenaFAN error occurs (shown by red blinks).

●Digital module part self-diagnosis function

At the time of main microcomputer start, check hardware (mainly LSI) by a self diagnosis program.
To enter to this Self-Diagnosis mode, follow the next steps:

Procedure

1)Enter Adjustment Mode.
2)Select SELF TEST and press OK button.
3)SELF TEST screen is displayed.
4)Each cord is displayed to a SELF TEST screen.
A diagnosis result is displayed with numerical value in the right side of each cord.
Numerical value shows that normal movement in the case of 0, a case except 0 are errors.



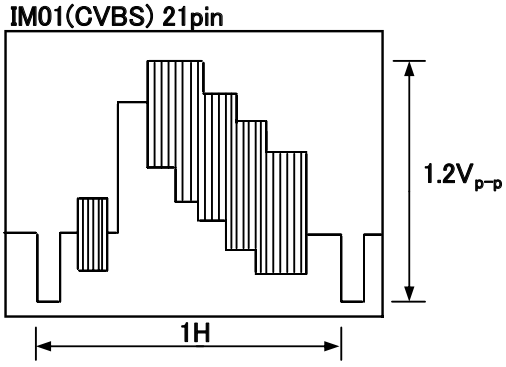
Adjustment Mode screen　　SELF TEST screen

●A list of indication codes

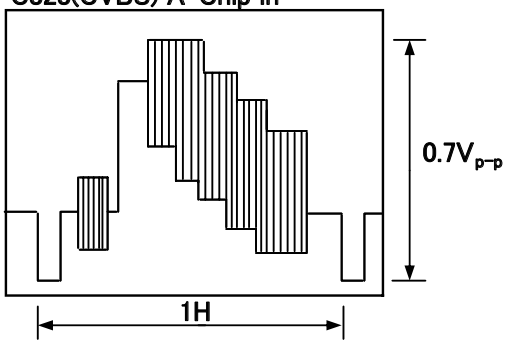
code	function	circuit No.	PCB name	Error contents
ddb	Debug	I101	MAIN	parameter error, system error
dsm	Sub-microcomputer	IH04	MAIN	system error(-1)
dle	LED	IH04	MAIN	seine general-purpose port lead error、lighting time error、system error
dfl	flash	I103	MAIN	parameter error、device error、system error
dmp	MPEG	I101	MAIN	Video error(2)、Audio error(4)
ddm	demulti	–	–	error
drm	key scan	IH04	MAIN	system error(-1)/others error(3)
dic	IICbus driver	I101	MAIN	R_SYS_ERROR(-1),DIC_R_DEVICE_ERROR(2)
dvad	ADC	I101	MAIN	system error(-1)/device(I2C)error(2)/driver error(6)
dfc	FC	I101	MAIN	firmware error code、system error
dhdm	HDMI	I102	MAIN	system error(-1)/parameter error(1)/device(I2C)error(2)
dvdc	Video decoder	I102	MAIN	device error、system error
dpdp	PDPpanel(for PDP)	–	PDP panel	system error
dldp	LCDpanel(for LCD)	–	LCD panel	state impossible of command acceptance、standby、parameter error
dvi	Video	I101	MAIN	device error(firmware error)、system error
dvbi	VBI slicer	I102	MAIN	system error
dsl	Video Switch	I101	MAIN	system error
dada	Audio amplifier	IF07	MAIN	parameter error、setting error in suspend、system error I2C communication error with TAS3103 or TAS5508
dau	Audio	I101	MAIN	system error
dhpa	Headphones amplifier	I003	SUB	standby、state error
dtu	Digital / Analog tuner	UT01,UT02	Terminal	fail in initialization、system error
dswv	Swivel	IH04	MAIN	system error(-1)/parameter error(1)/ sub-microcomputer driver communication error(2)/ error impossible of initialization registration(4)
dmmc	MMC	–	–	driver initialization error、system error
dptp	PTP driver	I101	MAIN	R_SYS_ERROR(-1)other errors(10)
dpq	Picture control driver	I102,IM01	MAIN,SUB	parameter error、system error、suspend error、device error
ddp	Display driver	I101	MAIN	system error
dttc	Analog TeleText	IR01	SUB	device error、system error
dpyc	PAL3DY/C Video decoder	IM01	SUB	device error、system error
dsp	Multiplex driver	IY01	SUB	system error(-1)/I2C communication error(2)
dcic	CI driver	IW01	SLOT	system error(-1)

8. Waveform diagrams

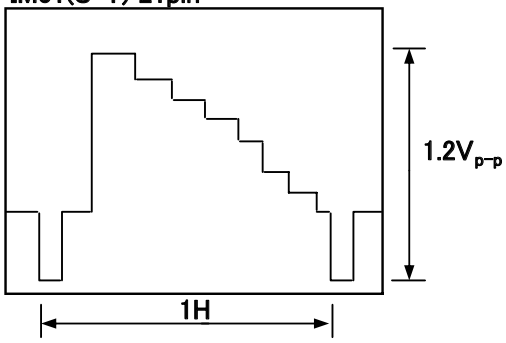
IM01(CVBS) 21pin



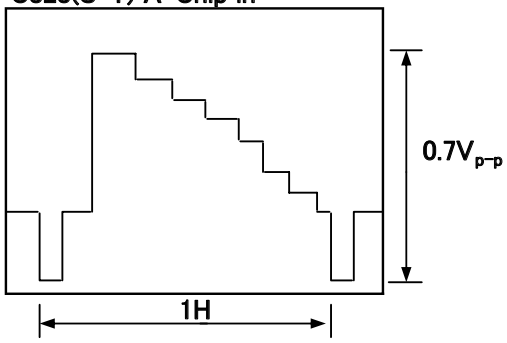
C828(CVBS) A-Chip in



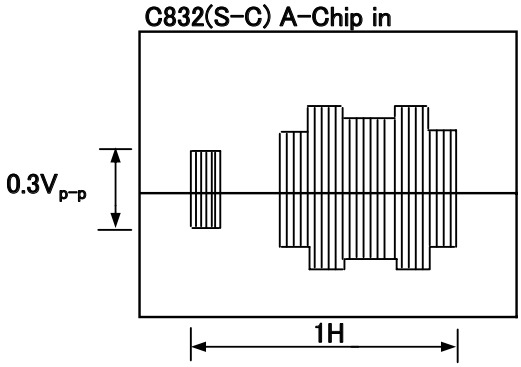
IM01(S-Y) 21pin



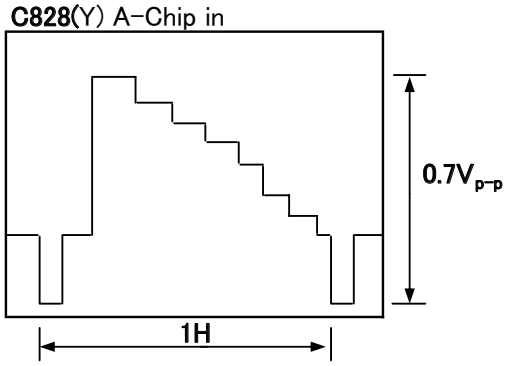
C828(S-Y) A-Chip in



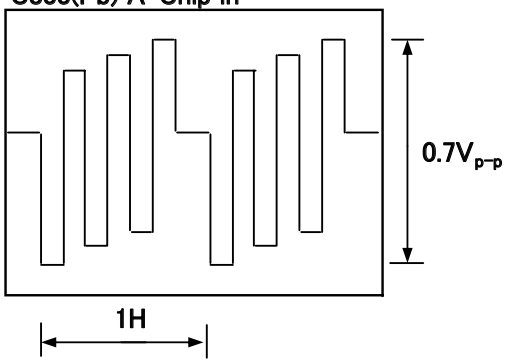
IM01(S-C) 30pin
C832(S-C) A-Chip in



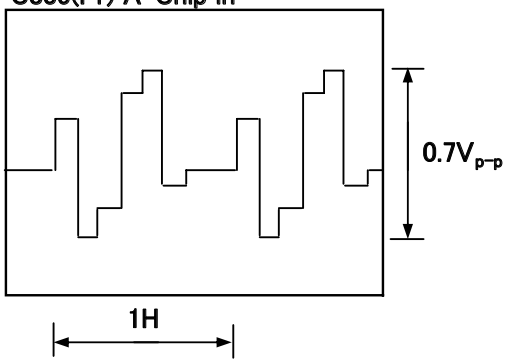
C828(Y) A-Chip in



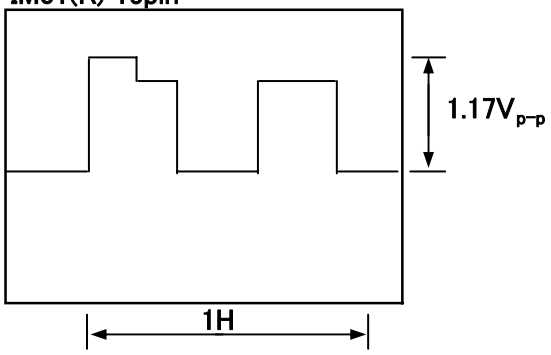
C833(Pb) A-Chip in



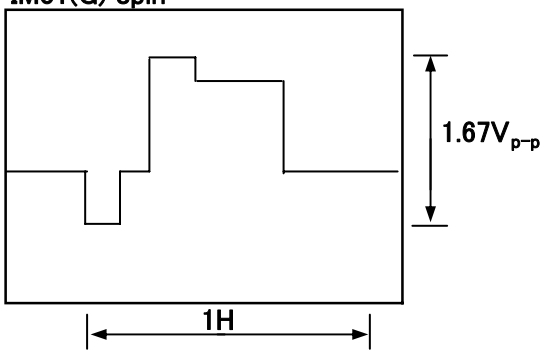
C835(Pr) A-Chip in



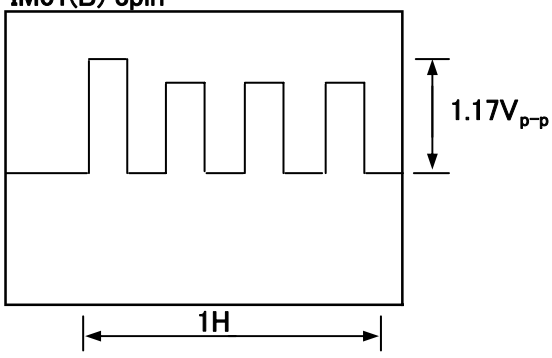
IM01(R) 15pin



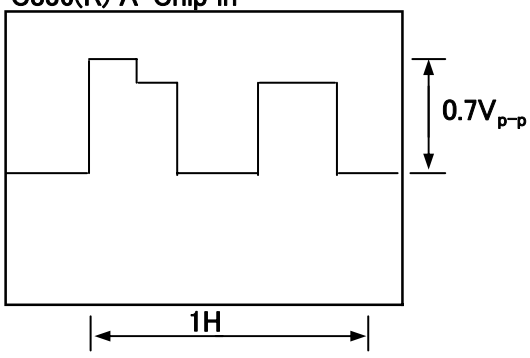
IM01(G) 8pin



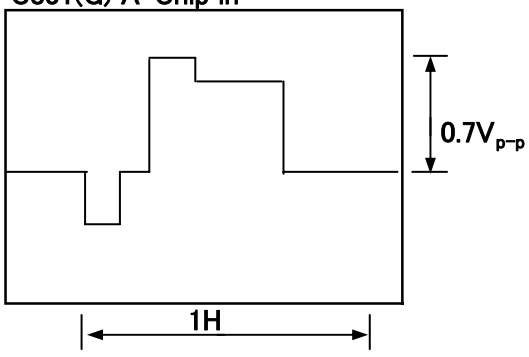
IM01(B) 3pin



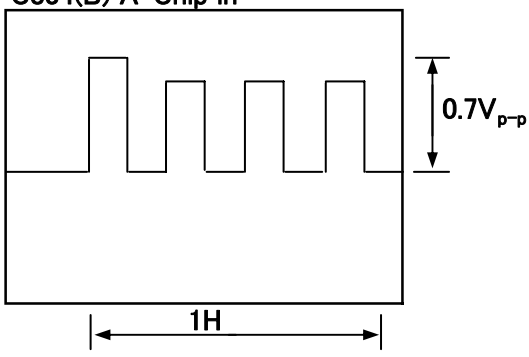
C836(R) A-Chip in



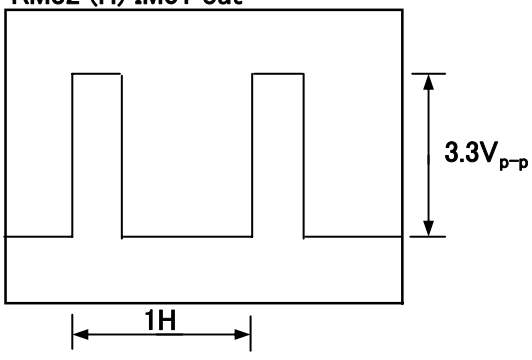
C831(G) A-Chip in



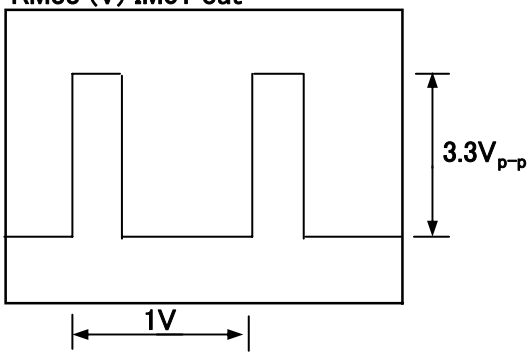
C834(B) A-Chip in



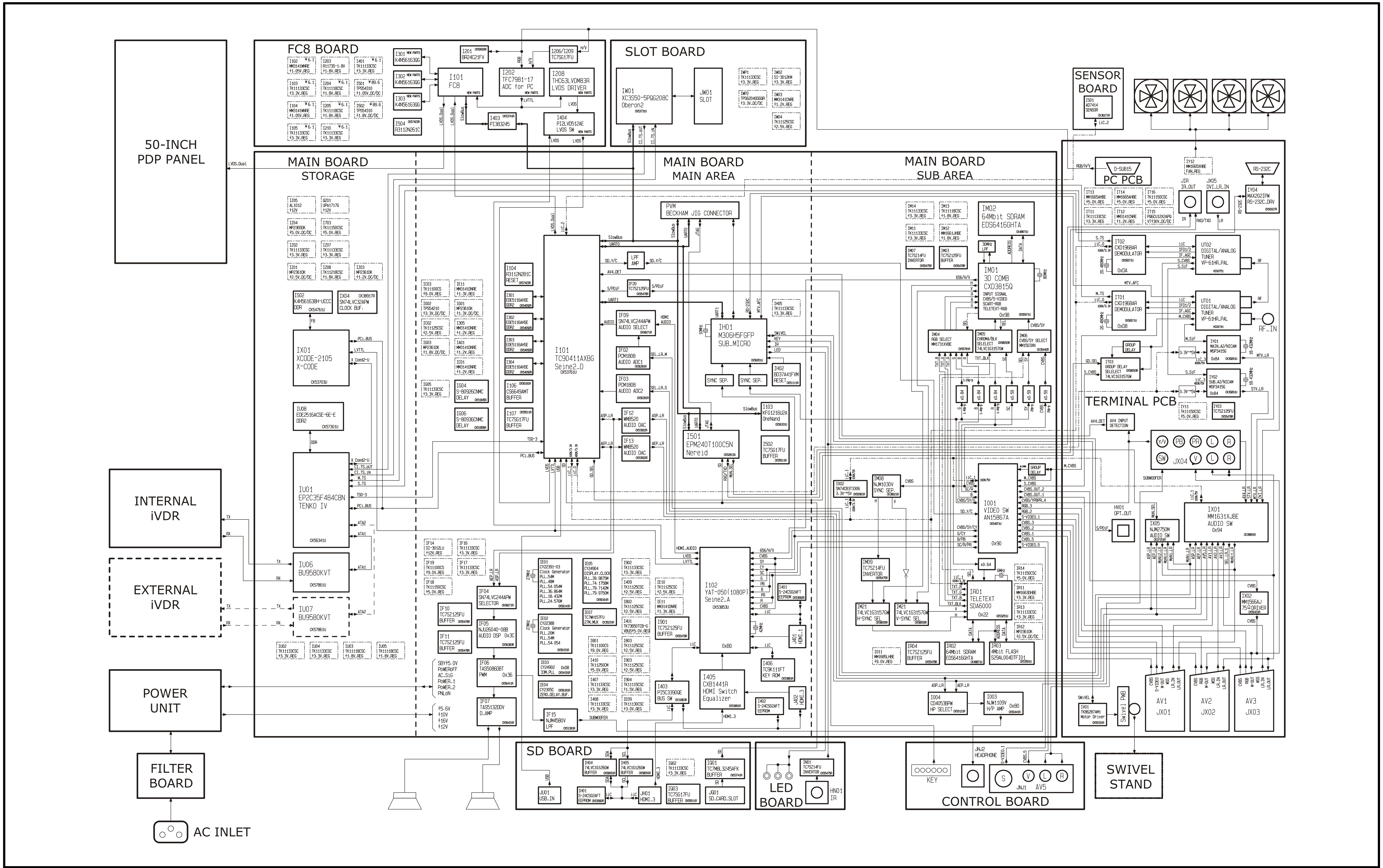
RM32 (H) IM01 out



RM33 (V) IM01 out



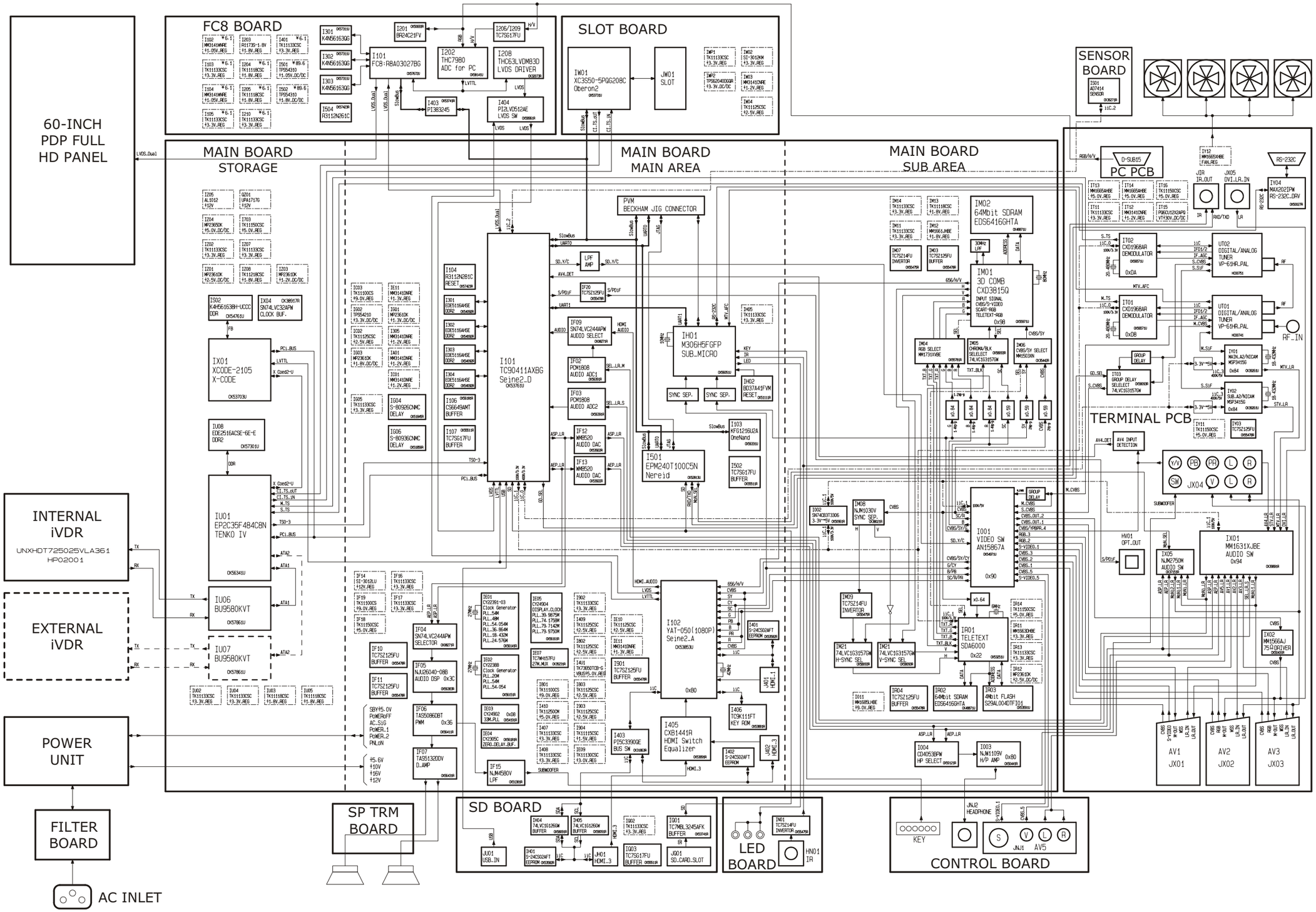
9. Block diagram [For P50XR01U/E]



SM017

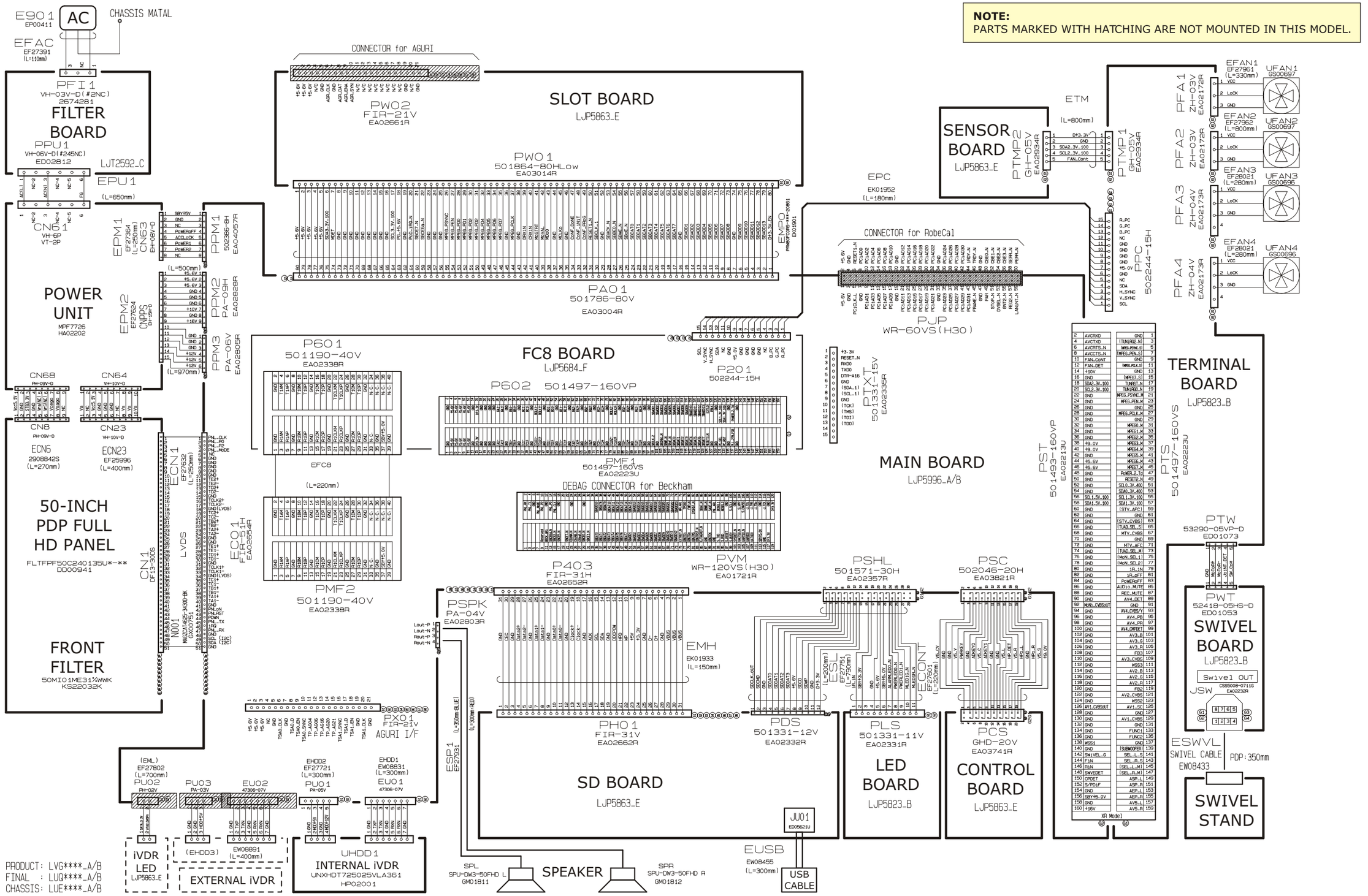
BLOCK DIAGRAM

HITACHI

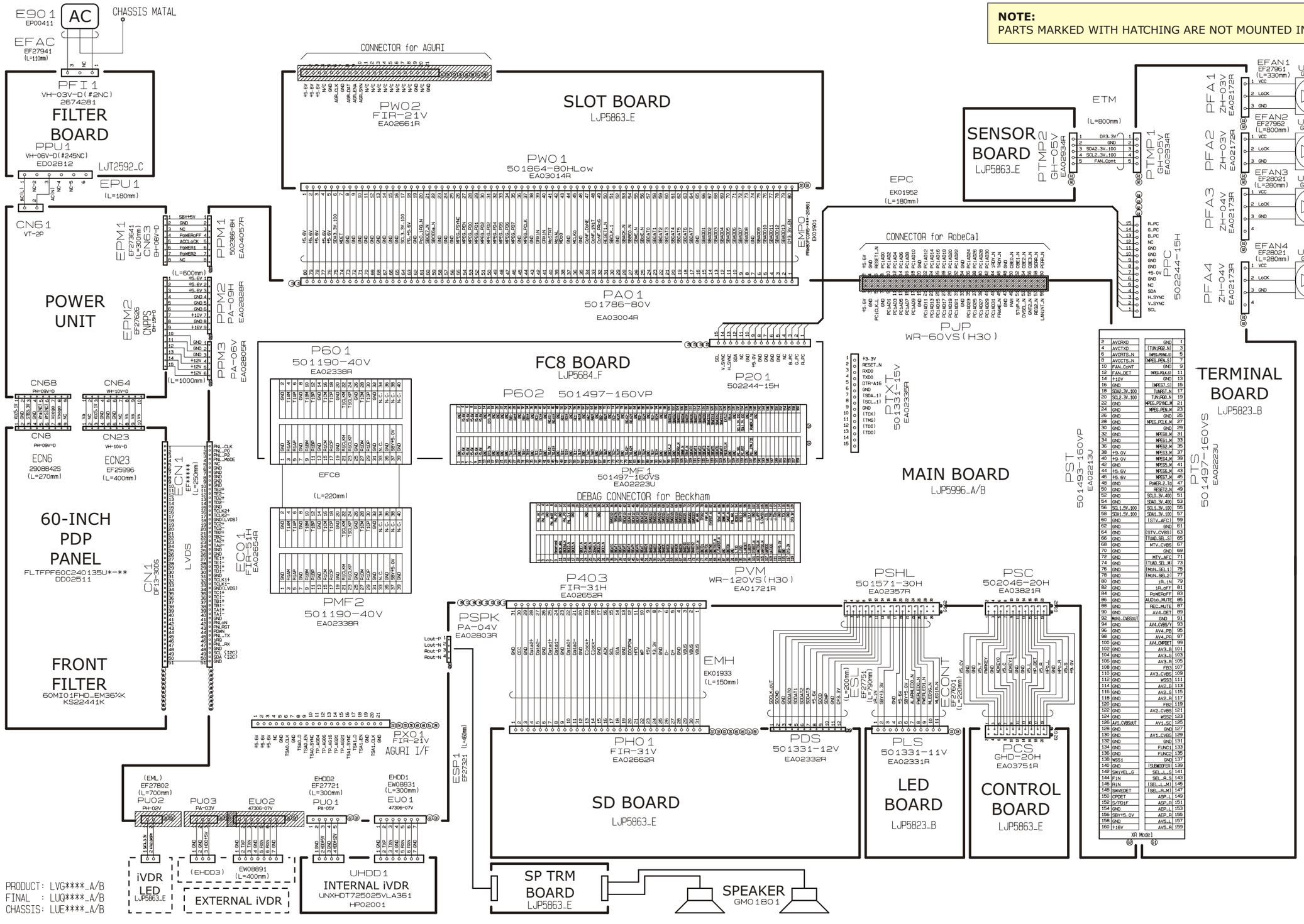

60-INCH
PDP FULL
HD PANEL
FC8 BOARD
SLOT BOARD
SENSOR
BOARD
MAIN BOARD
STORAGE
MAIN BOARD
MAIN AREA
MAIN BOARD
SUB AREA
PC PCB
TERMINAL PCB
INTERNAL
iVDR
UNXHDT725025VLA361
HP02001
EXTERNAL
iVDR
POWER
UNIT
FILTER
BOARD
AC INLET
SP TRM
BOARD
SD BOARD
LED
BOARD
CONTROL BOARD
I101
FC8:R8A03027BG
I202
THC7980
ADC for PC
I208
THC63LVDM83D
LVDS DRIVER
IW01
XC3S50-5PQG208C
Oberon2
JW01
SLOT
I101
TC90411AXBG
Seine2_D
IH01
M306H5FGFP
SUB_MICRO
I102
YAT-050(1080P)
Seine2_A
I501
EPM240T100C5N
Nereid
IU01
EP2C35F484C8N
TENKO IV
IU06
BU9580KVT
IU07
BU9580KVT
IM01
3D COMB
CXD3815Q
IM02
64Mbit SDRAM
EDS6416GHTA
IO01
VIDEO SW
AN15867A
IR01
TELETEXT
SDA6000
IX01
XCODE-2105
X-CODE
IU08
EDE2516ACSE-6E-E
DDR2
IF01
CY22391-03
Clock Generator
IF02
PCM1808
AUDIO ADC1
IF03
PCM1808
AUDIO ADC2
IF04
SN74LVC244APW
SELECTOR
IF05
NJU26040-08B
AUDIO DSP 0x3C
IF06
TAS5086DBT
PWM 0x36
IF07
TAS5132DDV
D_AMP
IF09
SN74LVC244APW
AUDIO SELECT
IF12
WM8520
AUDIO DAC
IF13
WM8520
AUDIO DAC
IF15
NJM4580V
LPF
IF20
TC7S2125FU
IG04
S-80926CNMC
DELAY
IG06
S-80936CNMC
DELAY
IH02
BD37A41FVM
RESET
IO02
SN74CB3T3306
3.3V~5V
IO08
NJM1030V
SYNC SEP.
IO03
GROUP DELAY
SELELECT
74LVC1G157GW
IO04
CD4053BPW
HP SELECT
IO05
CHROMA/BLK
SELELECT
74LVC1G3157GW
IO06
CVBS/SY SELECT
MM1563XN
IO09
TC7SZ14FU
INVERTOR
IO03
NJM1109V
H/P AMP 0x80
IX02
MM1566AJ
75Ω DRIVER
IX03
MM1631XJBE
AUDIO SW
0x94
IX04
MAX202IPW
RS-232C_DRV
IY01
NJU3LA2/NICAM
MSP34156
IY02
SUB_A2/NICAM
MSP34156
IY03
TC7SZ125FU
IY04
CXD1968AR
DEMODULATOR
0xDA
IY01
CXD1968AR
DEMODULATOR
0xDB
UT01
DIGITAL/ANALOG
TUNER
VP-61HRL-PAL
UT02
DIGITAL/ANALOG
TUNER
VP-61HRL-PAL
IY12
MM1565AHBE
T&NL.REG
IY04
MAX202IPW
RS-232C_DRV
JX04
JX01
AV1
JX02
AV2
JX03
AV3
JX05
SUBWOOFER
JNJ1 AV5
JNJ2
HEADPHONE
KEY
IN01
IR
HV01
OPT_OUT
IS01
AD7414
SENSOR
IW01
XC3S50-5PQG208C
Oberon2
IU01
EP2C35F484C8N
TENKO IV
IU06
BU9580KVT
IU07
BU9580KVT
IH01
M306H5FGFP
SUB_MICRO
I102
YAT-050(1080P)
Seine2_A
I501
EPM240T100C5N
Nereid
IM01
3D COMB
CXD3815Q
IM02
64Mbit SDRAM
EDS6416GHTA
IO01
VIDEO SW
AN15867A
IR01
TELETEXT
SDA6000
IX01
MM1631XJBE
AUDIO SW
0x94
IY01
NJU3LA2/NICAM
MSP34156
IY02
SUB_A2/NICAM
MSP34156
IY04
MAX202IPW
RS-232C_DRV
UT01
DIGITAL/ANALOG
TUNER
VP-61HRL-PAL
UT02
DIGITAL/ANALOG
TUNER
VP-61HRL-PAL
JX04
JX01
AV1
JX02
AV2
JX03
AV3
JX05
SUBWOOFER
JNJ1 AV5
JNJ2
HEADPHONE
KEY
IN01
IR
HV01
OPT_OUT

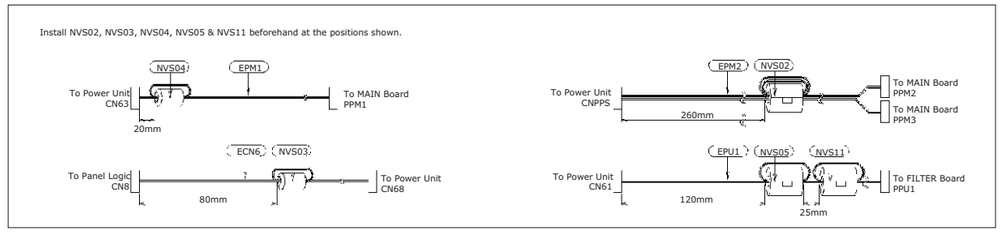
10. Connection diagram [For P50XR01U/E]

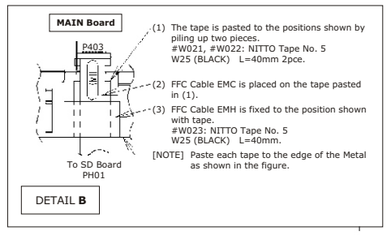
NOTE:
PARTS MARKED WITH HATCHING ARE NOT MOUNTED IN THIS MODEL.

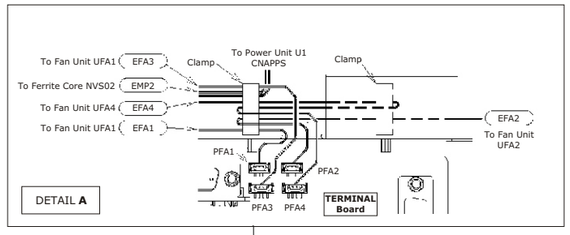


NOTE:
PARTS MARKED WITH HATCHING ARE NOT MOUNTED IN THIS MODEL.









PURSE LOCK

⌀ 5.0mm (P/N 3749612)

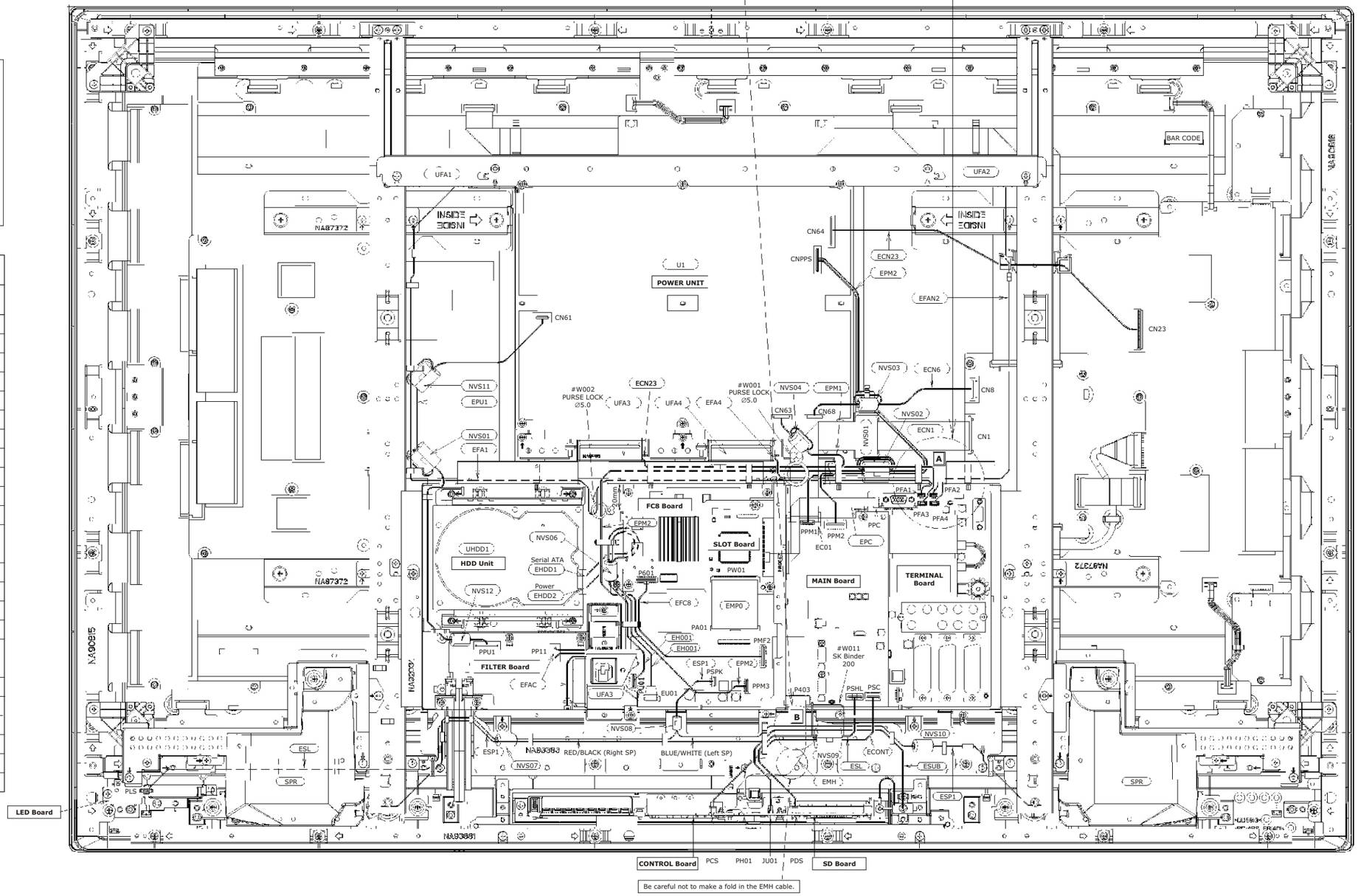
Ferrite Core Sizes:

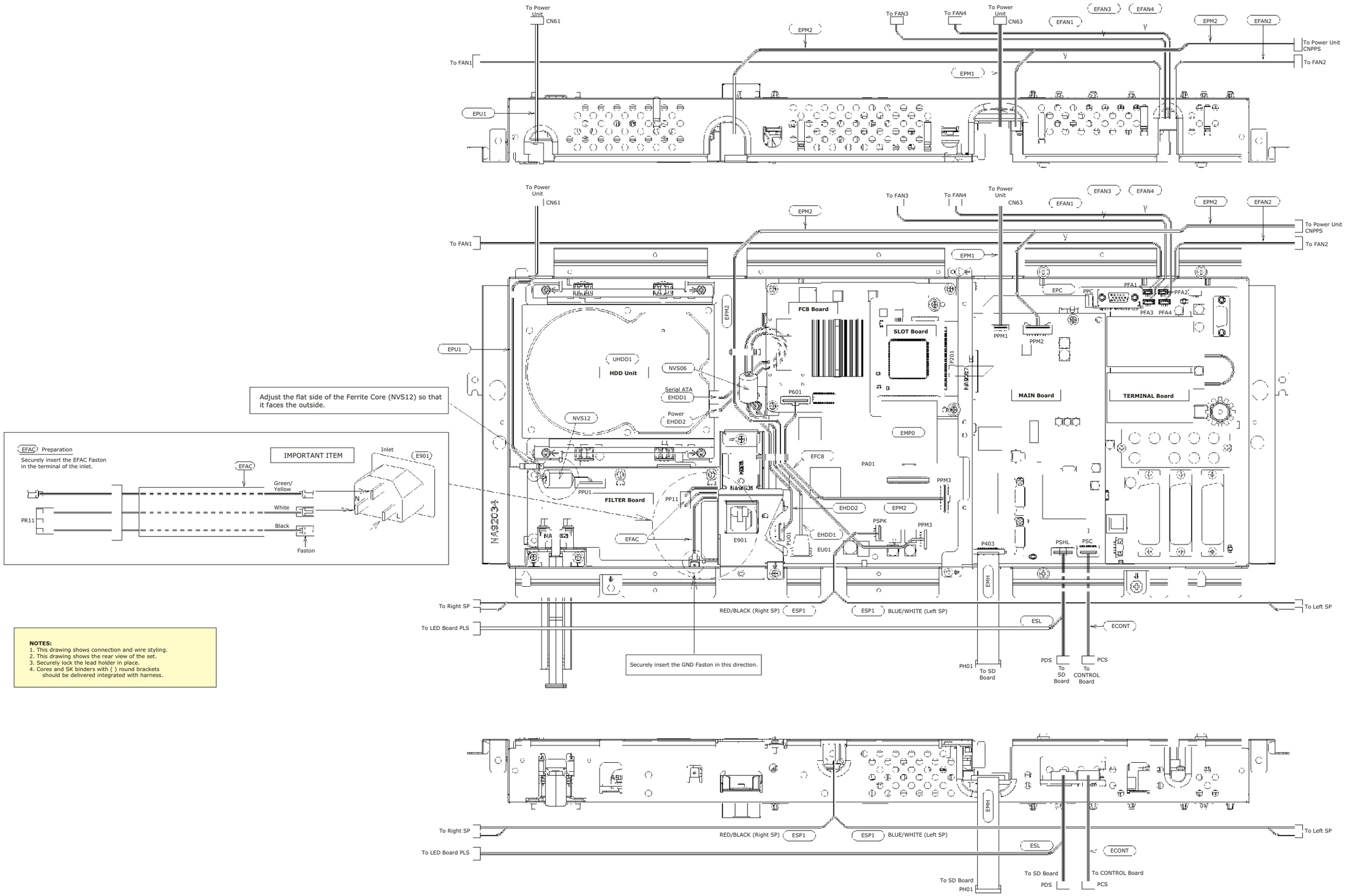
Large (P/N GX00734): NVS02, NVS05, NVS09, NVS11.
Medium (P/N GX00732): NVS03, NVS04, NVS06, NVS07, NVS10, NVS12.
Small (P/N GX00731): NVS08.
For PPC (P/N GX00791): NVS01.

Use 12 in total when 1 includes a harness product ferrite core.

Name	Connection Point			
	Name	Board	Name	Board or Location
ECN1	EC01	MAIN Board	CN1	Panel Logic
ECN6	CN68	Power Unit	CNB	Panel Logic
ECN23	CN64	Power Unit	CN23	Panel X-SUS
ECONT	PSC	MAIN Board	PCS	CONTROL Board
EFAC	E901	AC Inlet	PF11	FILTER Board
			----	Chassis Metal
EFA1	PFA1	TERMINAL Board	----	FAN Unit UFA1
EFA2	PFA2	TERMINAL Board	----	FAN Unit UFA2
EFA3	PFA3	TERMINAL Board	----	FAN Unit UFA3
EFA4	PFA4	TERMINAL Board	----	FAN Unit UFA4
EFC8	P601	FC8 Board	PMF2	MAIN Board
EH001	EU01	MAIN Board	Serial ATA	HDD Unit UHDD1
EH002	PU01	MAIN Board	POWER	
EMH	PFA1	MAIN Board	PH01	SD Board
EMP0	PA01	MAIN Board	PW01	SLOT Board
EPC	P201	FC8 Board	PPC	TERMINAL Board
EPM1	CN63	Power Unit	PPM1	MAIN Board
EPM2	CNPPS	Power Unit	PPM2	MAIN Board
			PPM3	
EPU1	PPU1	FILTER Board	CN61	Power Unit
ESL	PSHL	MAIN Board	PDS	SD Board
			PLS	LED Board
ESP1	PSPK	MAIN Board	----	SPL (Left Speaker)
			---	SPR (Right Speaker)
ESUB	JU01	SD Board	---	USB Cable

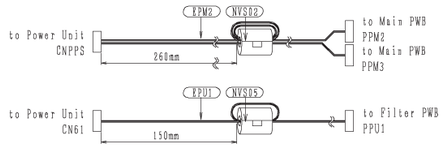
NOTES:
1. This drawing shows connection and wire styling.
2. This drawing shows the rear view of the set.
3. Securely lock the lead holder in place.
4. Cores and SK binders with ( ) round brackets should be delivered integrated with harness.





NOTES:
1. This drawing shows connection and wire styling.
2. This drawing shows the rear view of the set.
3. Securely lock the lead holder in place.
4. Cores and SK binders with ( ) round brackets should be delivered integrated with harness.

Install a core NVS02 and NVS03 beforehand at a position of a figure.



Purse Lock size

ϕ5.0 (P#3749612)
ϕ8.5 (P#NJ04411)

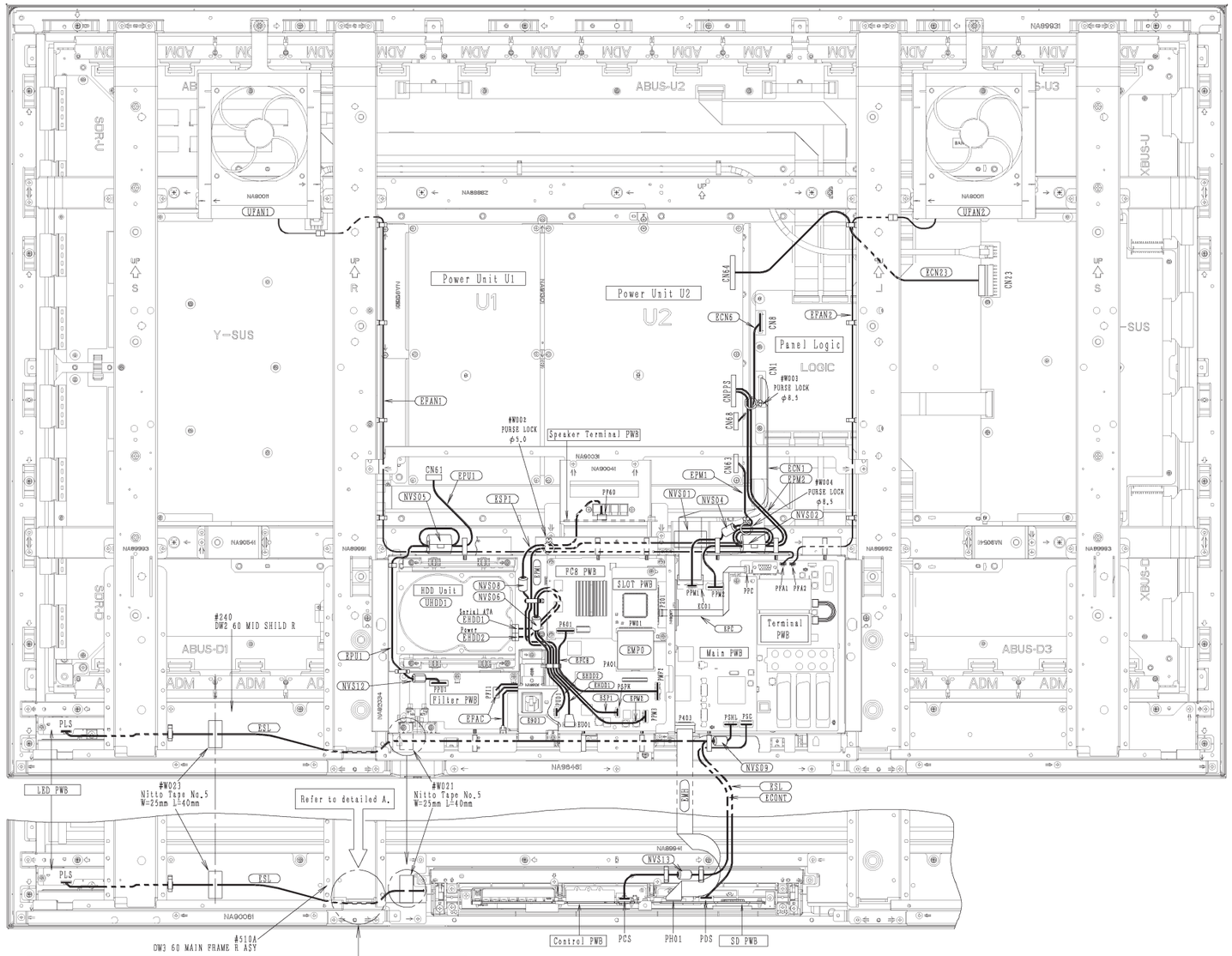
Ferrite core size

Large (P#GX00734) (NVS02) (NVS05)
Medium (P#GX00732) (NVS04) (NVS06) (NVS08) (NVS09) (NVS12) (NVS13)
For FPC (P#GX00791) (NVS01)

Use 9 in total when 1 includes a harness product ferrite core.

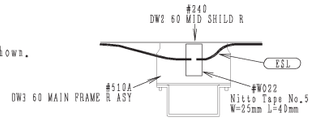
No.	Name	Connection Point			
		Name	Board	Name	Board or Location
1	ECN1	EC01	Main PWB	CN1	Panel Logic
2	ECN6	CN68	Power Unit	CN8	Panel Logic
3	ECN23	CN64	Power Unit	CN23	Panel X-SUS
4	ECONT	PSC	Main PWB	PCS	Control PWB
5	EPAC	E901	AC Inlet	PF11	Filter PWB
				----	Chassis Metal
6	EPAN1	PFA1	Terminal PWB	----	FAN Unit UFAN1
7	EPAN2	PFA2	Terminal PWB	----	FAN Unit UFAN2
8	EPC8	P601	PC8 PWB	PWF2	Main PWB
9	EHDD1	ED01	Main PWB	Serial ATA	HDD Unit UHDD1
10	EHDD2	PD01	Main PWB	Power	
11	EMH	P403	Main PWB	PH01	SD PWB
12	EMPO	PA01	Main PWB	PW01	SLOT PWB
13	EPC	P201	PC8 PWB	PPC	Terminal PWB
14	EPM1	CN63	Power Unit	PPM1	Main PWB
15	EPM2	CNPPS	Power Unit	PPM2	Main PWB
				PPM3	
16	EPU1	PPD1	Filter PWB	CN61	Power Unit
17	ESL	PSHL	Main PWB	PDS	SD PWB
				PLS	LED PWB
18	ESP1	PSPK	Main PWB	PP60	SP Terminal PWB

Specification
1.This drawing shows the wiring diagram for 60"PDP European Chassis.
The connection and wire styling are in the figure.
2.This drawing shows the rear view of the set.
3.Lock lead holder surely.
4.Cores and SK binder with ( ) round brackets should be delivered integrated with Harness.

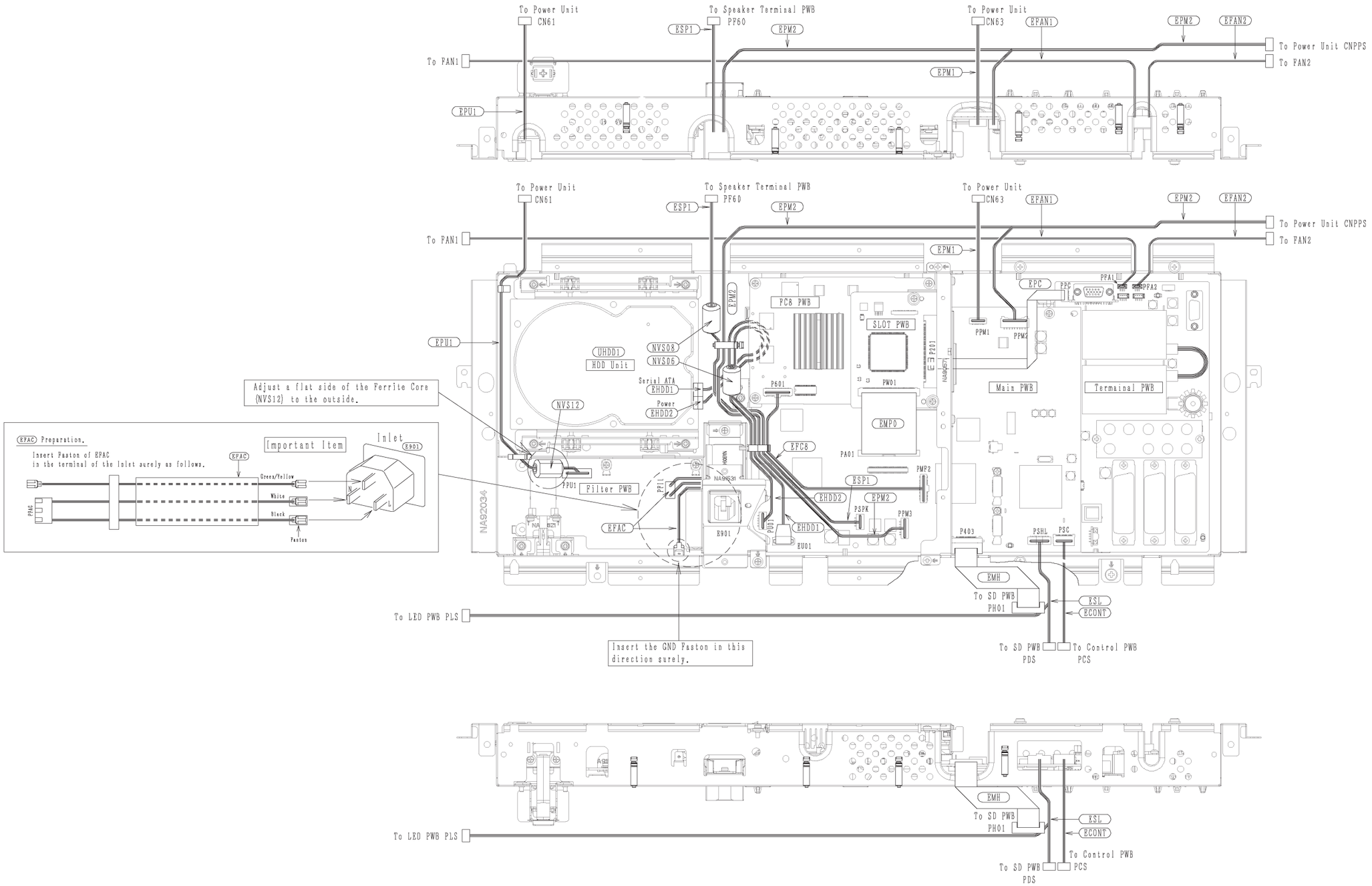


DETAIL A

An inside bottom of #510A (DW3 MAIN FRAME R ASY) is shown.

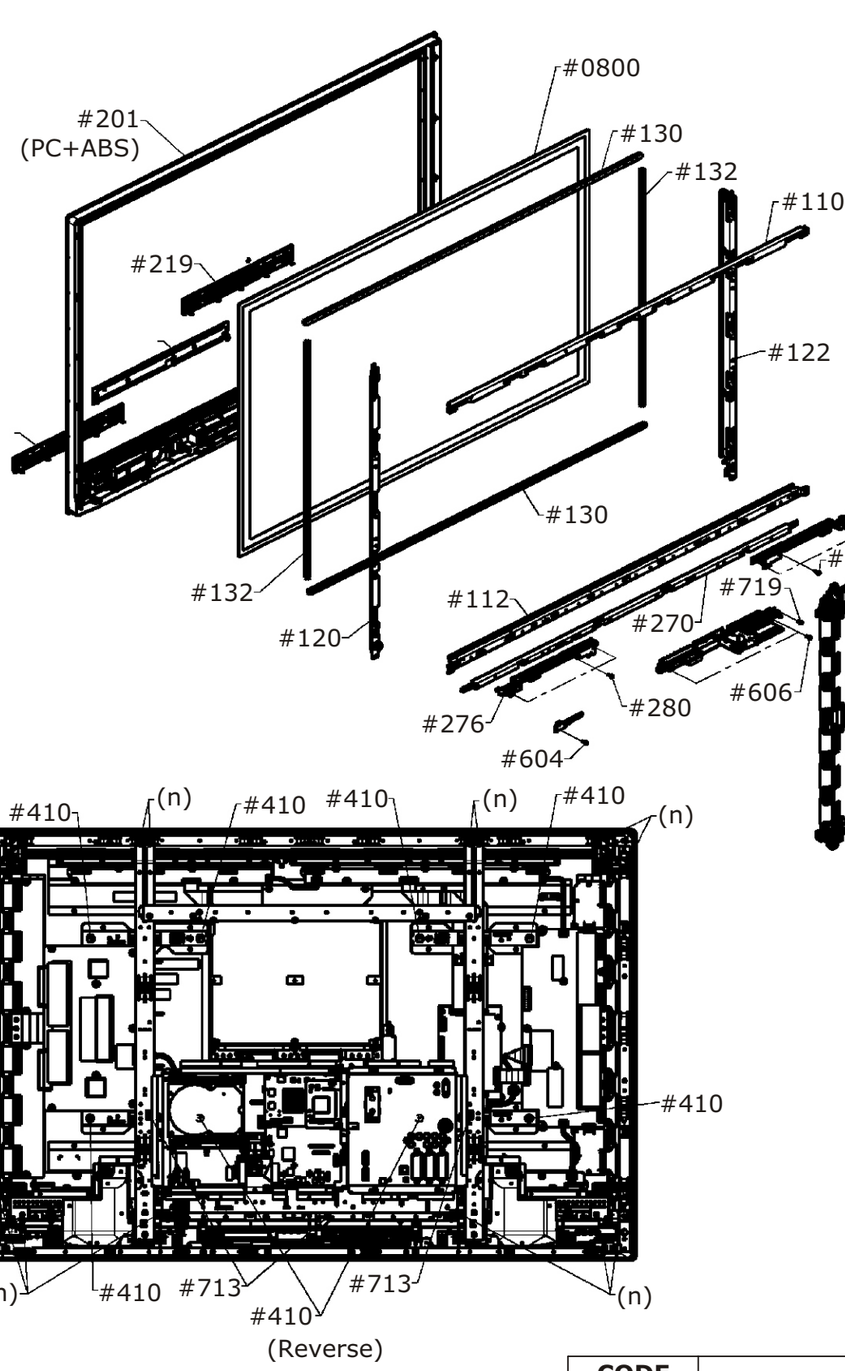


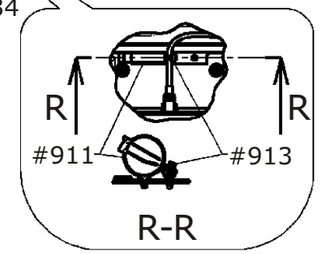
Note : Wiring for ESL after the installation of CHASSIS ASS 'Y.



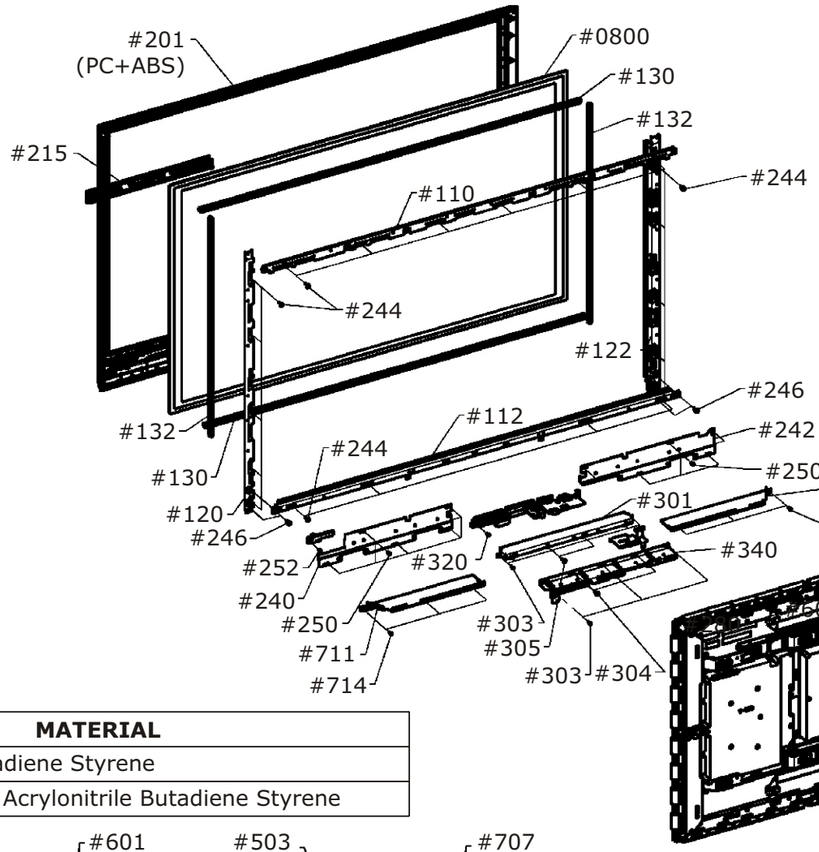
Specification

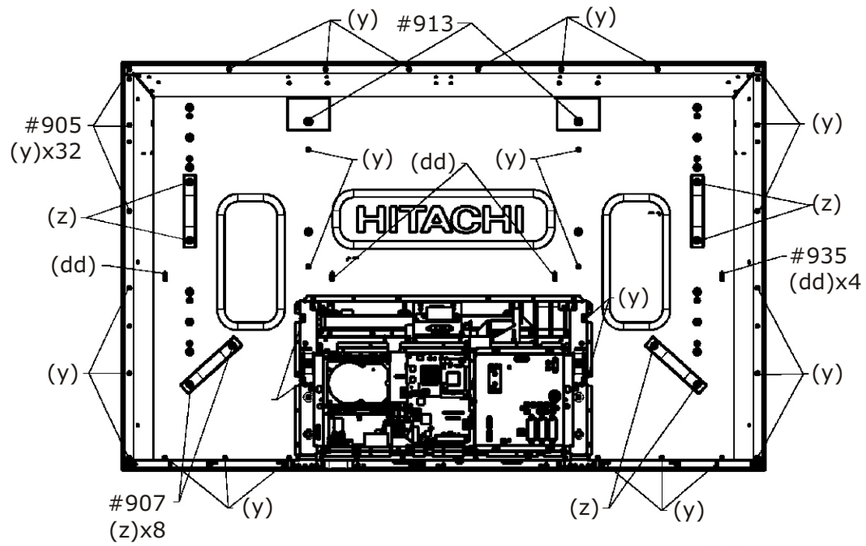
1.This drawing shows the wiring diagram for 60"PDP European Chassis.
  The connection and wire styling are in the figure.
2.This drawing shows the rear view of the set.
3.Lock lead holder surely.
4.Cores and SK binder with {} round brackets should be delivered integrated with Harness.

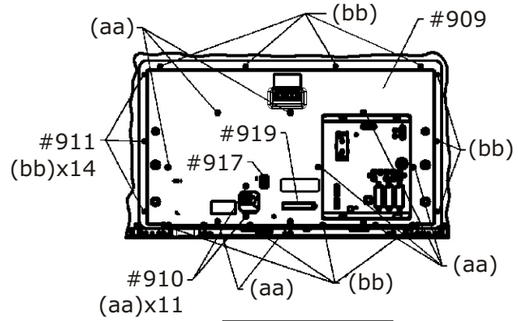




CODE	MATERIAL
ABS	Acrylonitrile Butadiene Styrene
PC+ABS	Polycarbonate + Acrylonitrile Butadiene Styrene

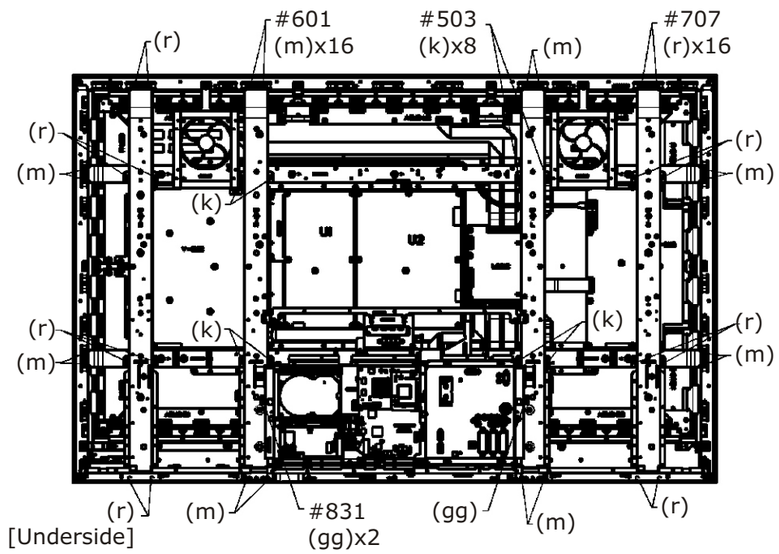


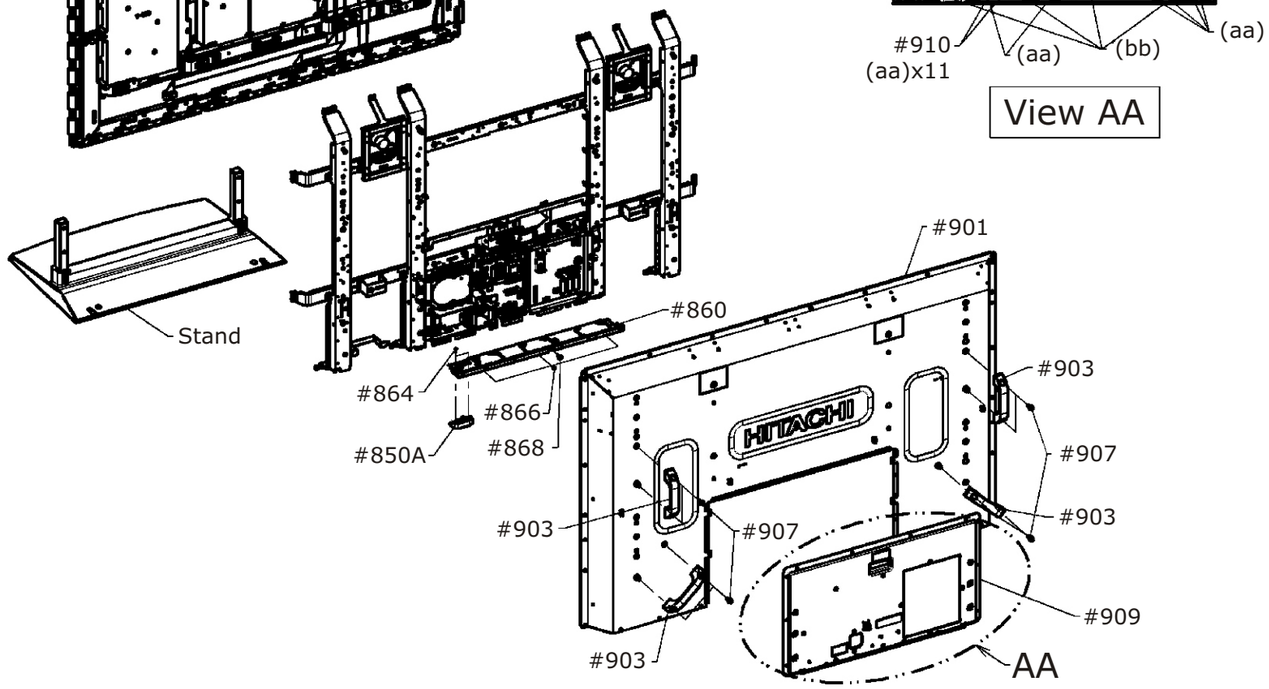


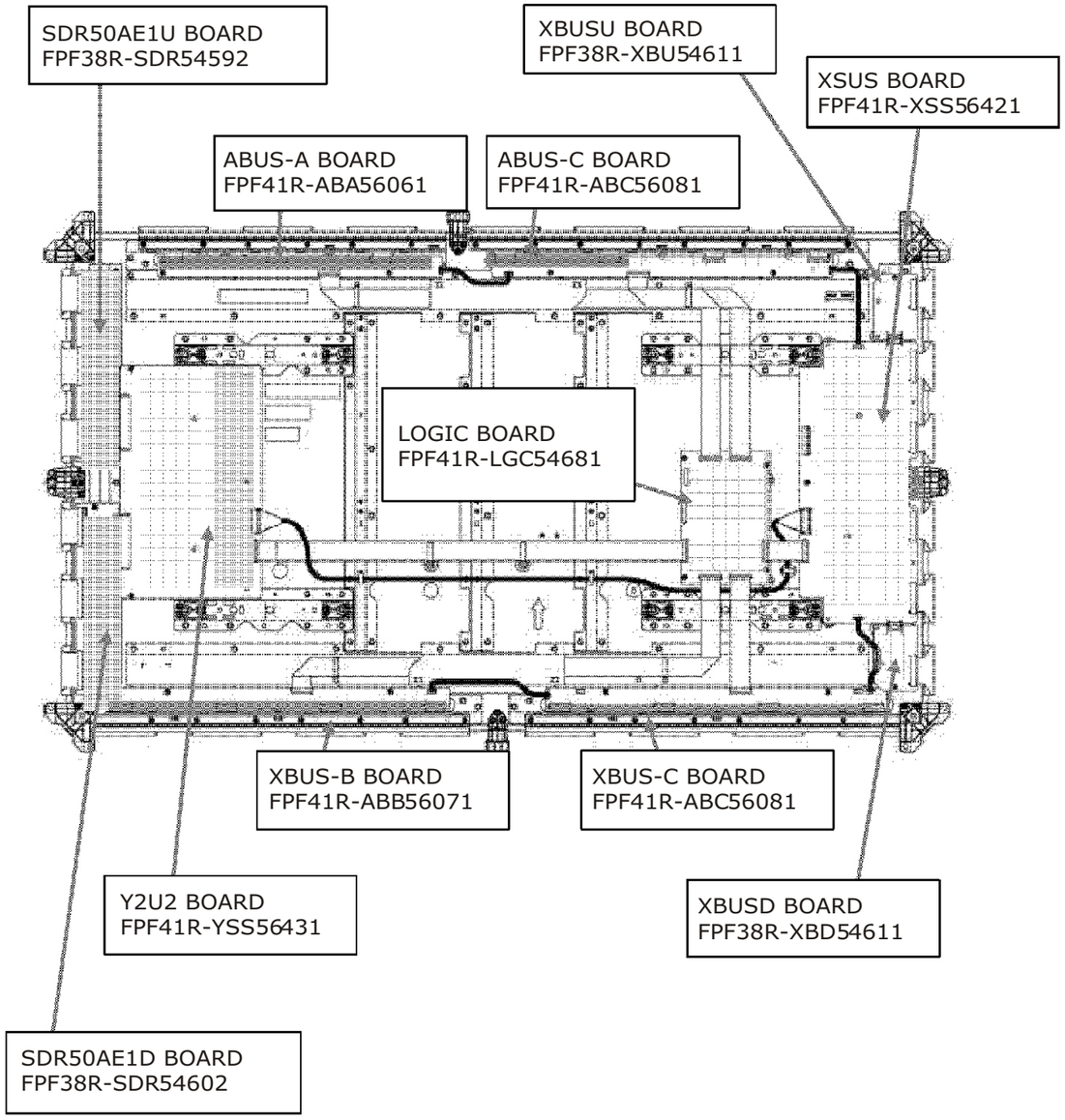


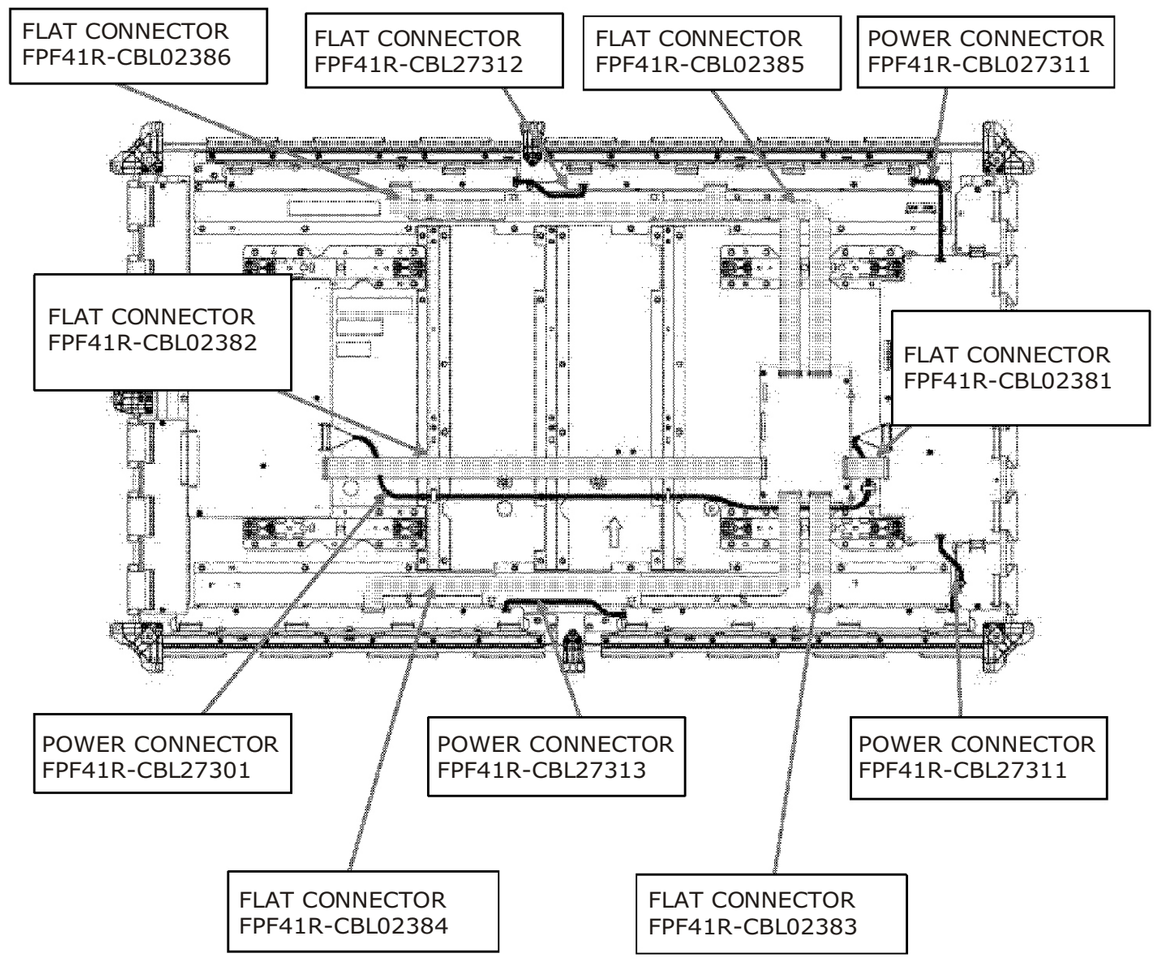
View AA

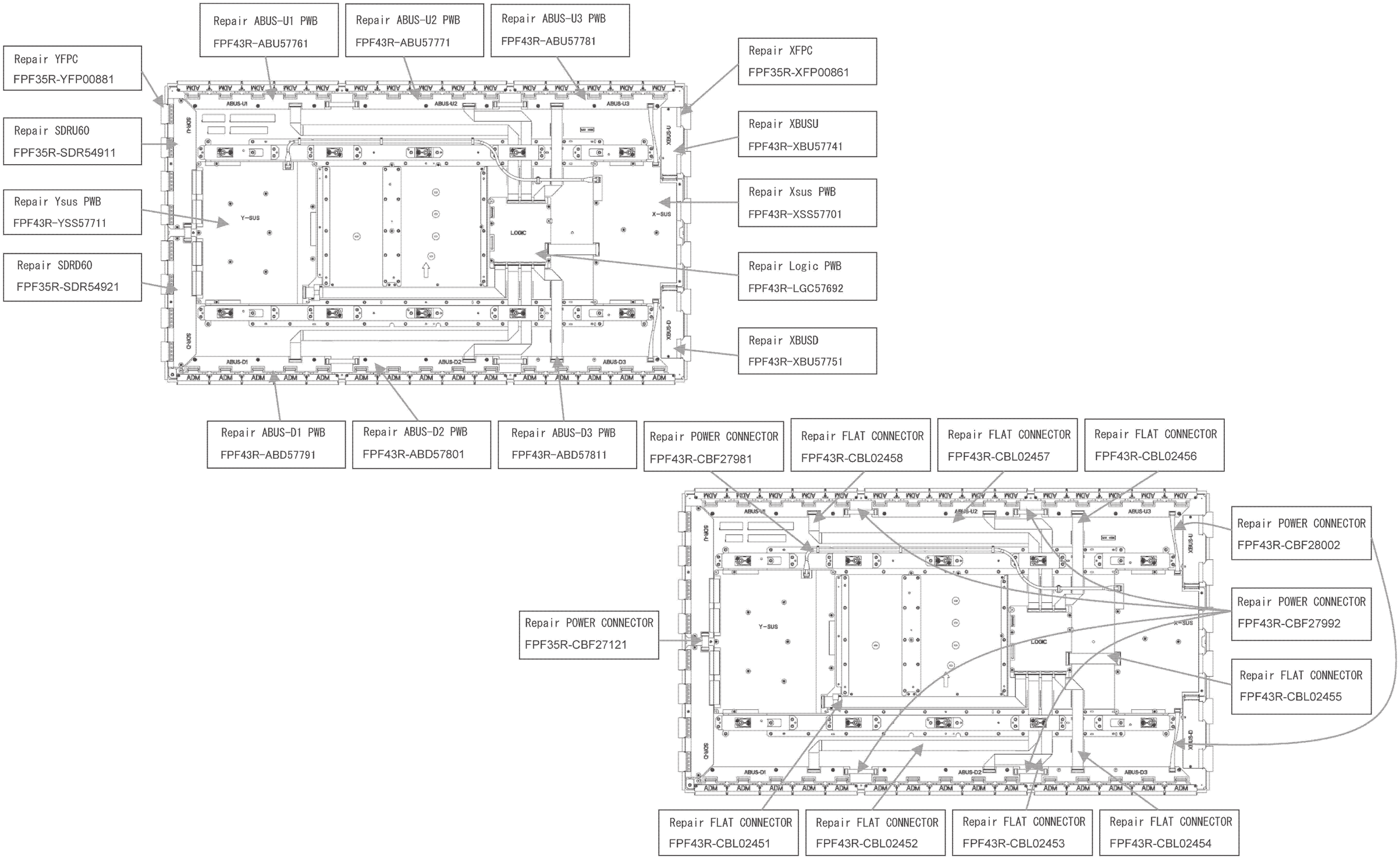
CODE	MATERIAL
ABS	Acrylonitrile Butadiene Styrene
PC+ABS	Polycarbonate + Acrylonitrile Butadiene Styrene






SDR50AE1U BOARD
FPF38R-SDR54592
XBUSU BOARD
FPF38R-XBU54611
XSUS BOARD
FPF41R-XSS56421
ABUS-A BOARD
FPF41R-ABA56061
ABUS-C BOARD
FPF41R-ABC56081
LOGIC BOARD
FPF41R-LGC54681
XBUS-B BOARD
FPF41R-ABB56071
XBUS-C BOARD
FPF41R-ABC56081
Y2U2 BOARD
FPF41R-YSS56431
XBUSD BOARD
FPF38R-XBD54611
SDR50AE1D BOARD
FPF38R-SDR54602


FLAT CONNECTOR
FPF41R-CBL02386
FLAT CONNECTOR
FPF41R-CBL27312
FLAT CONNECTOR
FPF41R-CBL02385
POWER CONNECTOR
FPF41R-CBL027311
FLAT CONNECTOR
FPF41R-CBL02382
FLAT CONNECTOR
FPF41R-CBL02381
POWER CONNECTOR
FPF41R-CBL27301
POWER CONNECTOR
FPF41R-CBL27313
POWER CONNECTOR
FPF41R-CBL27311
FLAT CONNECTOR
FPF41R-CBL02384
FLAT CONNECTOR
FPF41R-CBL02383


Repair ABUS-U1 PWB
FPF43R-ABU57761
Repair ABUS-U2 PWB
FPF43R-ABU57771
Repair ABUS-U3 PWB
FPF43R-ABU57781
Repair YFPC
FPF35R-YFP00881
Repair SDRU60
FPF35R-SDR54911
Repair Ysus PWB
FPF43R-YSS57711
Repair SDRD60
FPF35R-SDR54921
Repair XFPC
FPF35R-XFP00861
Repair XBUSU
FPF43R-XBU57741
Repair Xsus PWB
FPF43R-XSS57701
Repair Logic PWB
FPF43R-LGC57692
Repair XBUSD
FPF43R-XBU57751
ABUS-U1
ABUS-U2
ABUS-U3
ABUS-D1
ABUS-D2
ABUS-D3
Y-SUS
X-SUS
LOGIC
SDRU
SDRD
XBUS-U
XBUS-D
ADM
Repair ABUS-D1 PWB
FPF43R-ABD57791
Repair ABUS-D2 PWB
FPF43R-ABD57801
Repair ABUS-D3 PWB
FPF43R-ABD57811
Repair POWER CONNECTOR
FPF43R-CBF27981
Repair FLAT CONNECTOR
FPF43R-CBL02458
Repair FLAT CONNECTOR
FPF43R-CBL02457
Repair FLAT CONNECTOR
FPF43R-CBL02456
Repair POWER CONNECTOR
FPF43R-CBF28002
Repair POWER CONNECTOR
FPF43R-CBF27992
Repair FLAT CONNECTOR
FPF43R-CBL02455
Repair POWER CONNECTOR
FPF35R-CBF27121
Repair FLAT CONNECTOR
FPF43R-CBL02451
Repair FLAT CONNECTOR
FPF43R-CBL02452
Repair FLAT CONNECTOR
FPF43R-CBL02453
Repair FLAT CONNECTOR
FPF43R-CBL02454

13. Replacement parts list

THE UPDATED PARTS LIST

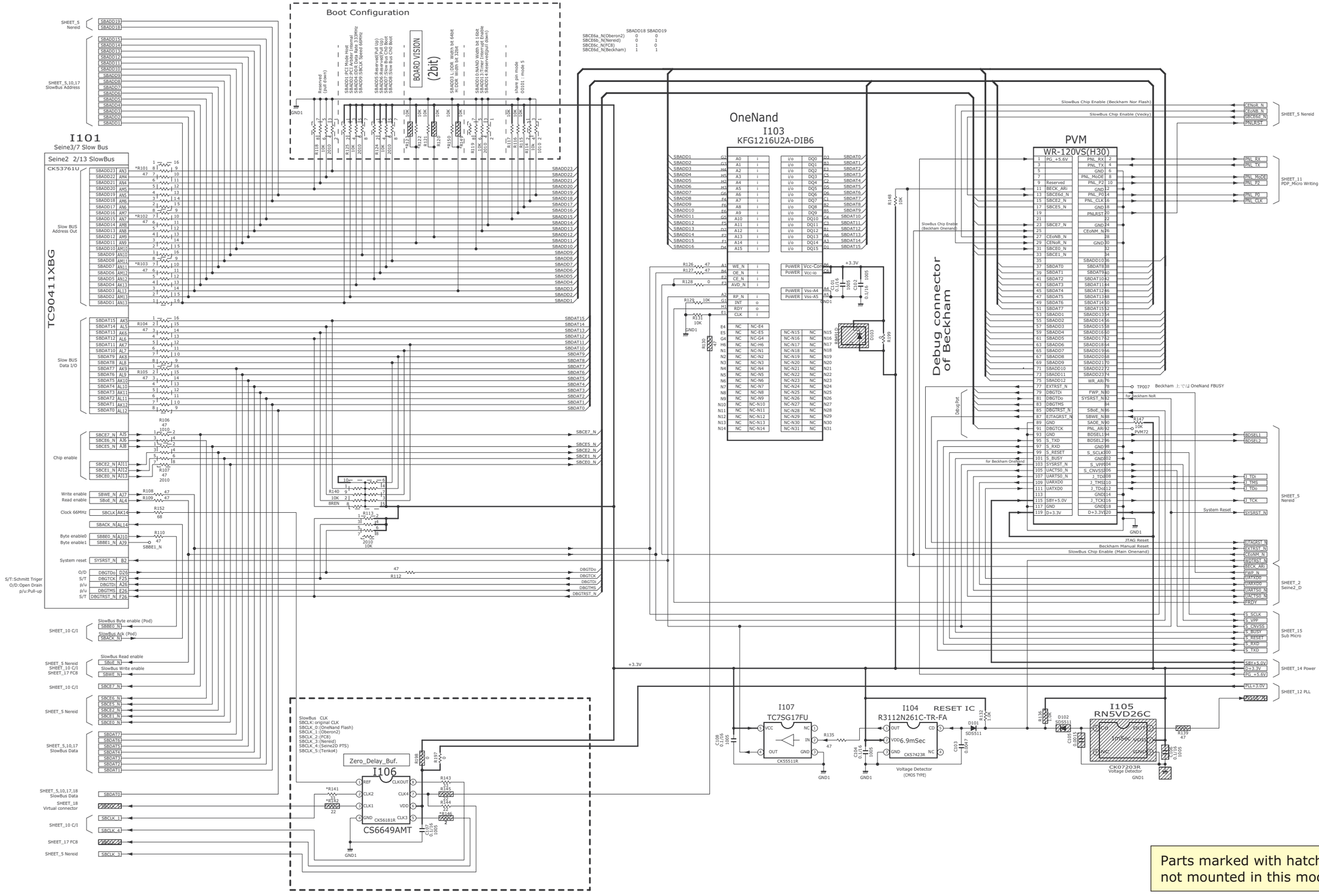
FOR THIS MODEL IS

AVAILABLE ON ESTA

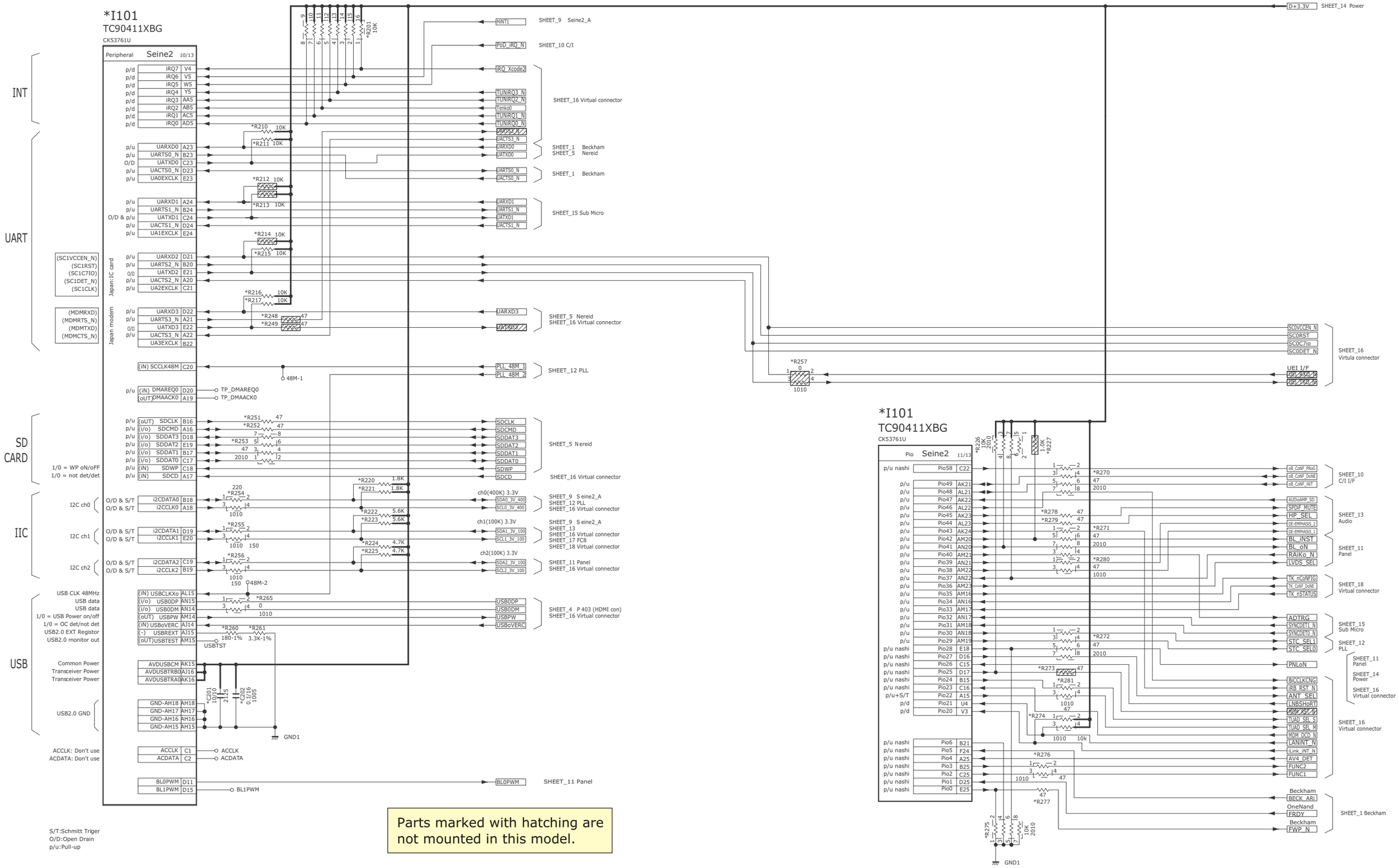
14. Schematic diagrams

Schematic diagram list

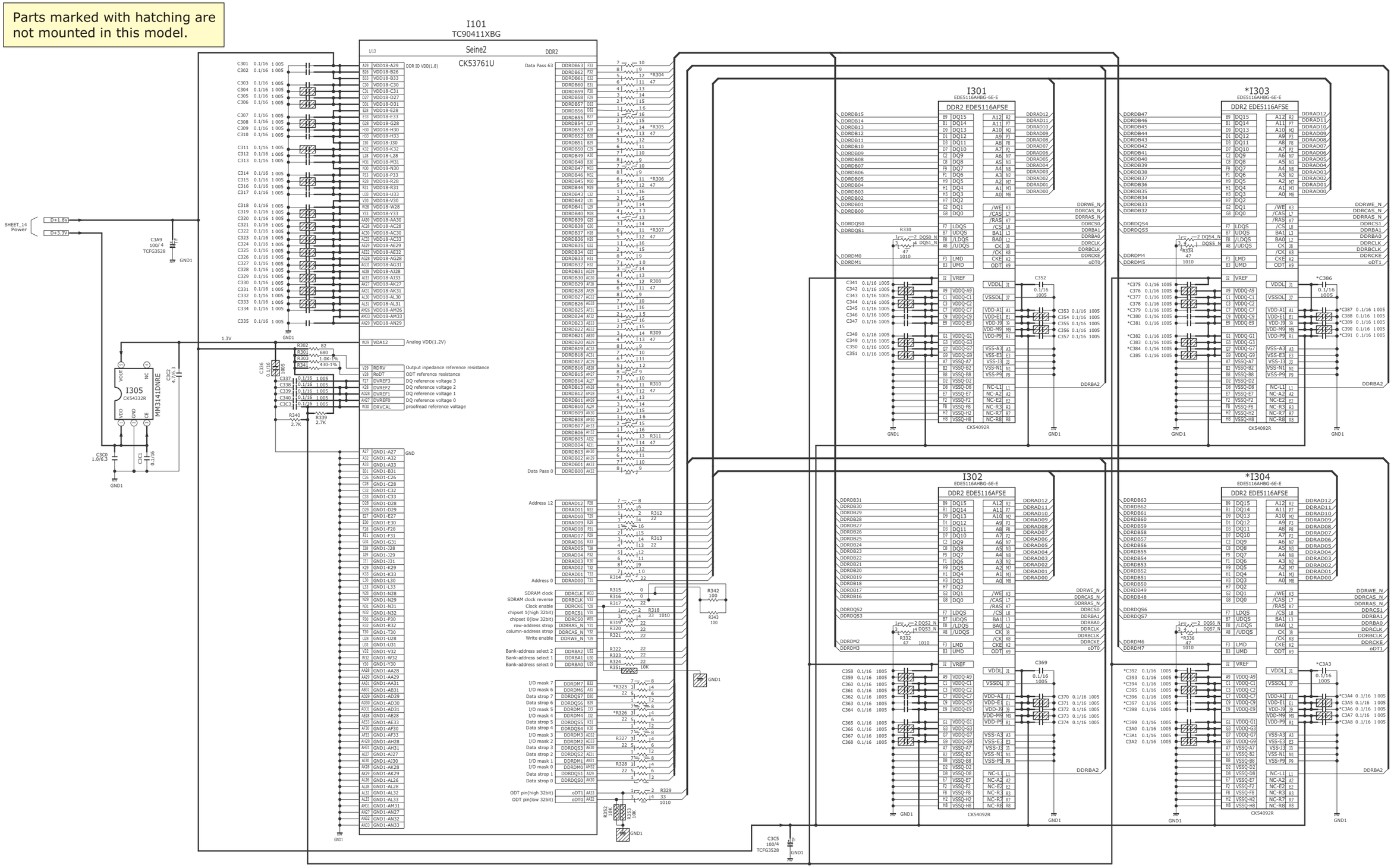
Schematic diagram list



Parts marked with hatching are not mounted in this model.

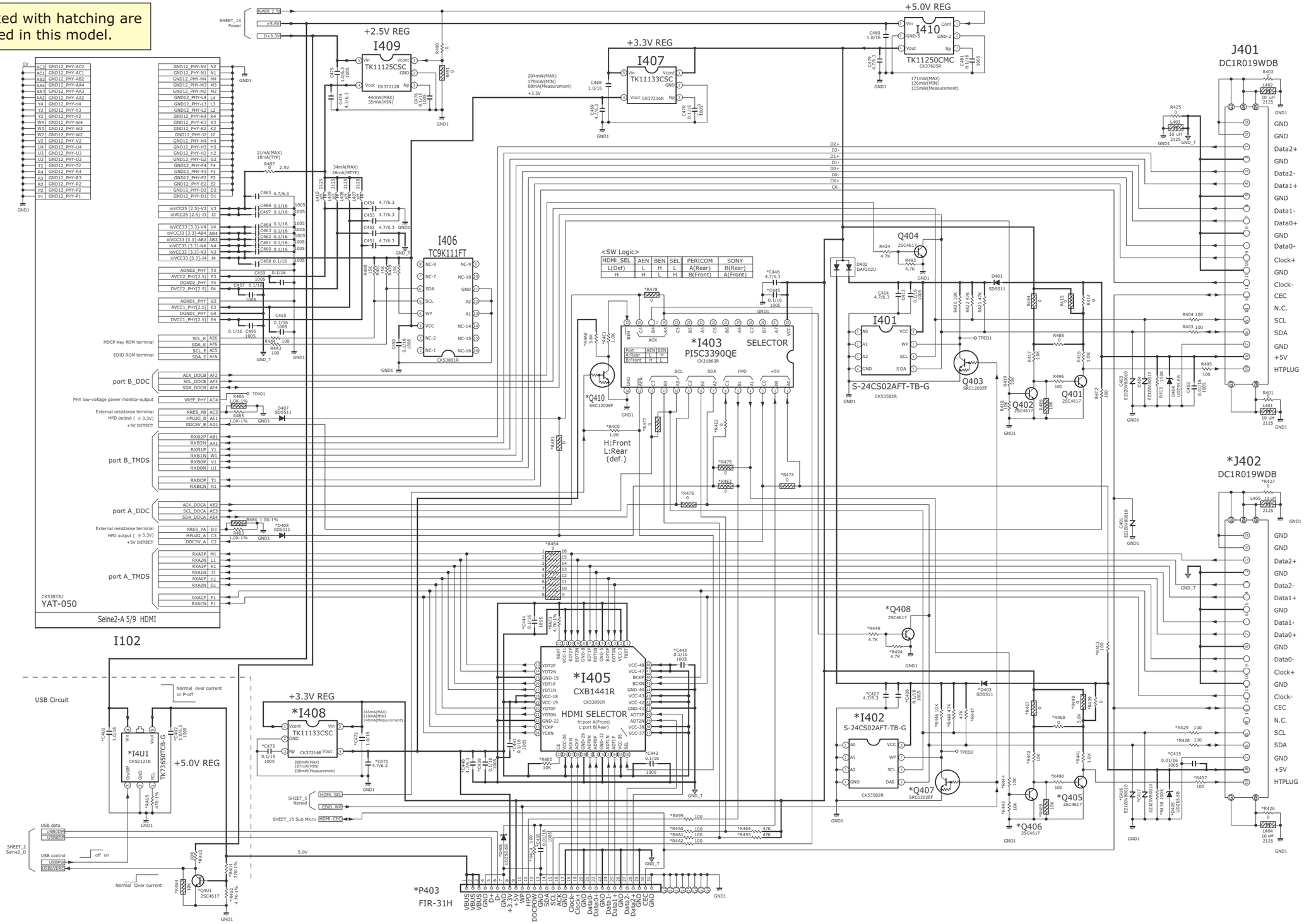

*I101
TC90411XBG
CK53761U
Peripheral Seine2 10/13
INT
UART
SD CARD
IIC
USB
Japan:IC card
Japan modem
1/0 = WP oN/oFF
1/0 = not det/det
I2C ch0
I2C ch1
I2C ch2
USB CLK 48MHz
USB data
USB data
1/0 = USB Power on/off
1/0 = OC det/not det
USB2.0 EXT Registor
USB2.0 monitor out
Common Power
Transceiver Power
Transceiver Power
USB2.0 GND
ACCLK: Don't use
ACDATA: Don't use
S/T:Schmitt Triger
O/D:Open Drain
p/u:Pull-up
Parts marked with hatching are not mounted in this model.
SHEET_9 Seine2_A
SHEET_10 C/I
SHEET_16 Virtual connector
SHEET_1 Beckham
SHEET_5 Nereid
SHEET_15 Sub Micro
SHEET_12 PLL
SHEET_4 P 403 (HDMI con)
SHEET_11 Panel
SHEET_14 Power
SHEET_16 Virtula connector
UEI 1/F
*I101
TC90411XBG
CK53761U
Pio Seine2 11/13
SHEET_10 C/I I/F
SHEET_13 Audio
SHEET_11 Panel
SHEET_18 Virtual connector
SHEET_15 Sub Micro
SHEET_12 PLL
SHEET_14 Power
SHEET_16 Virtual connector
SHEET_1 Beckham

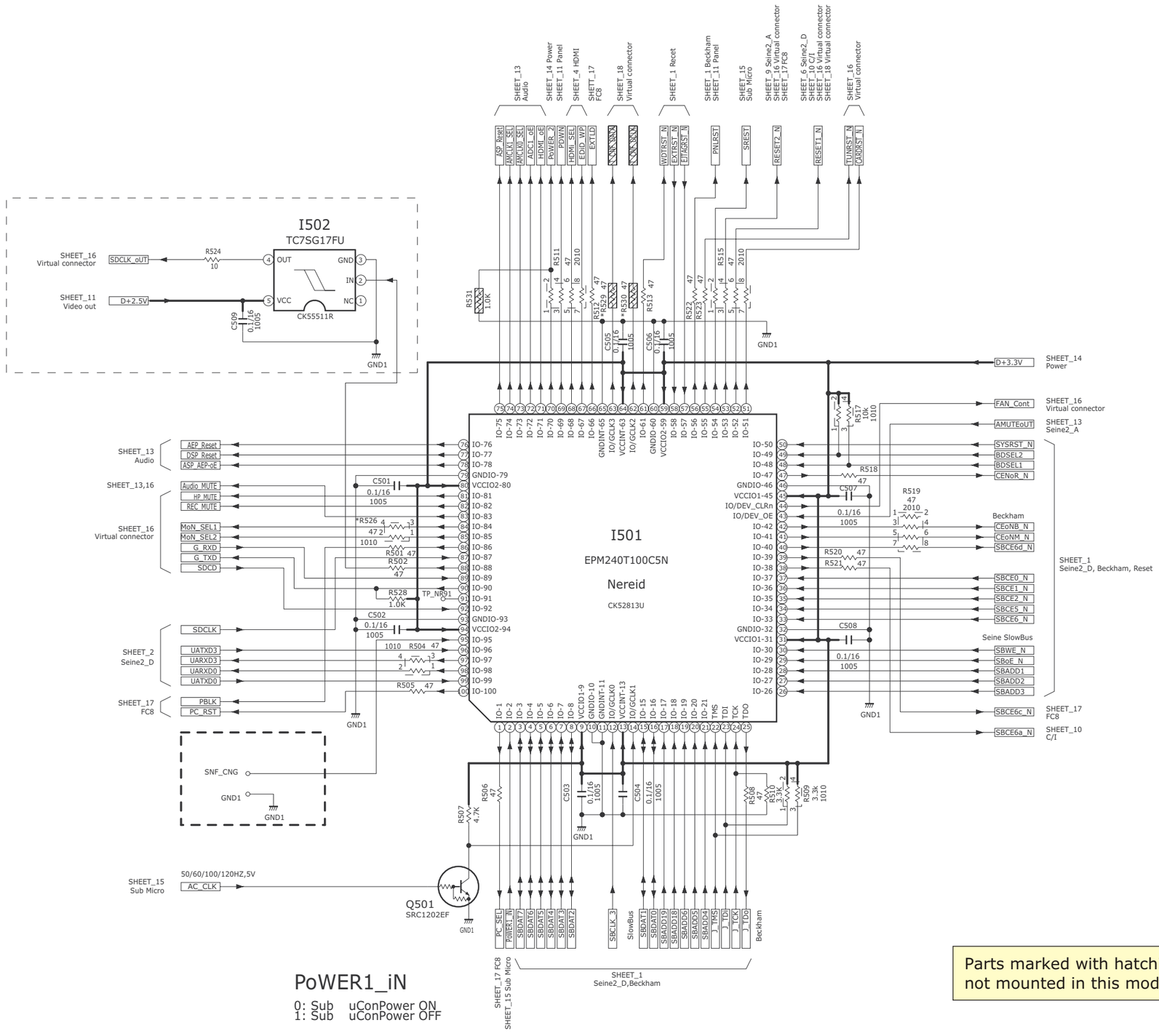
Parts marked with hatching are not mounted in this model.



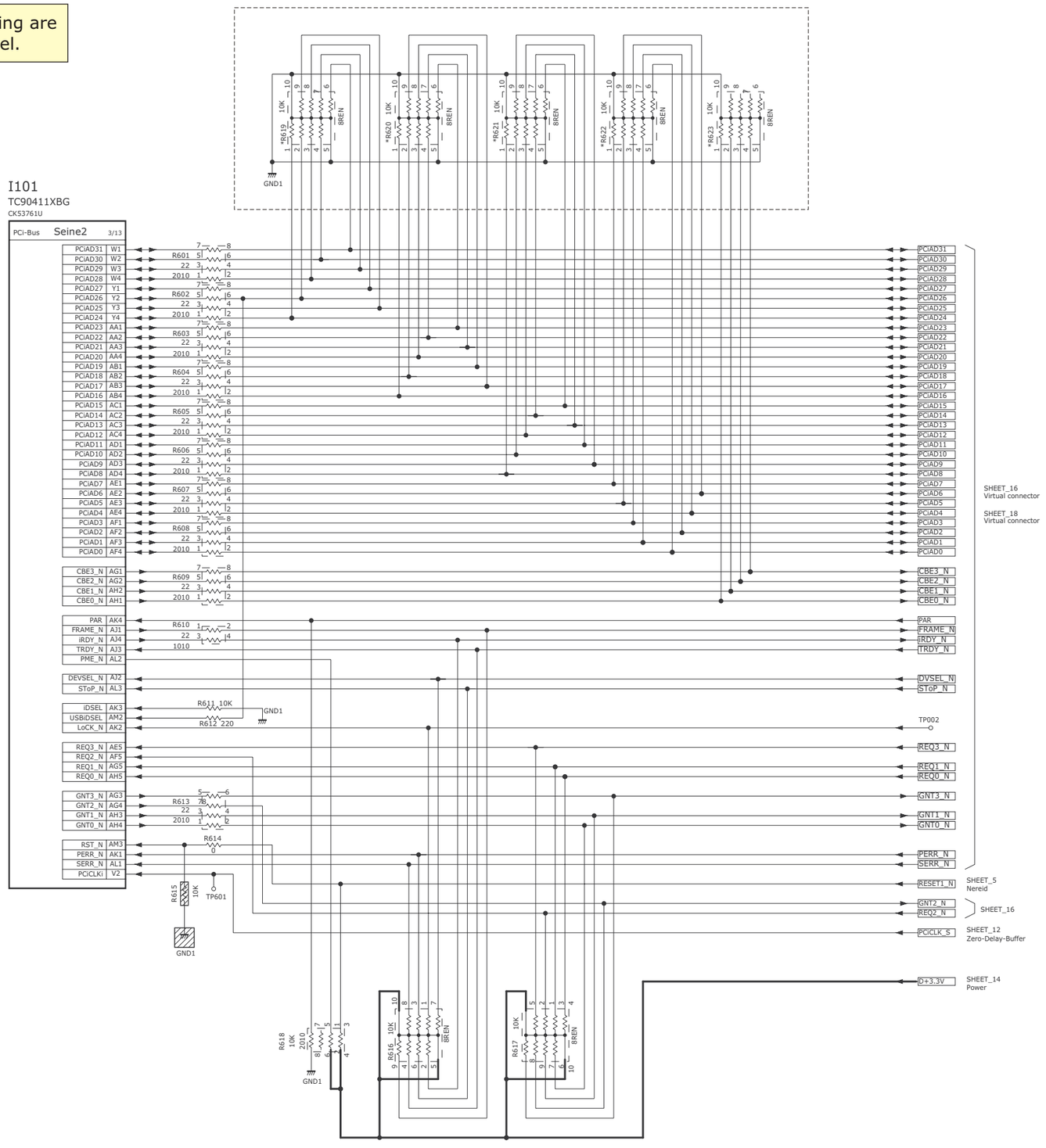
SM017	MAIN BOARD CIRCUIT - SHEET 3	HITACHI

Parts marked with hatching are not mounted in this model.

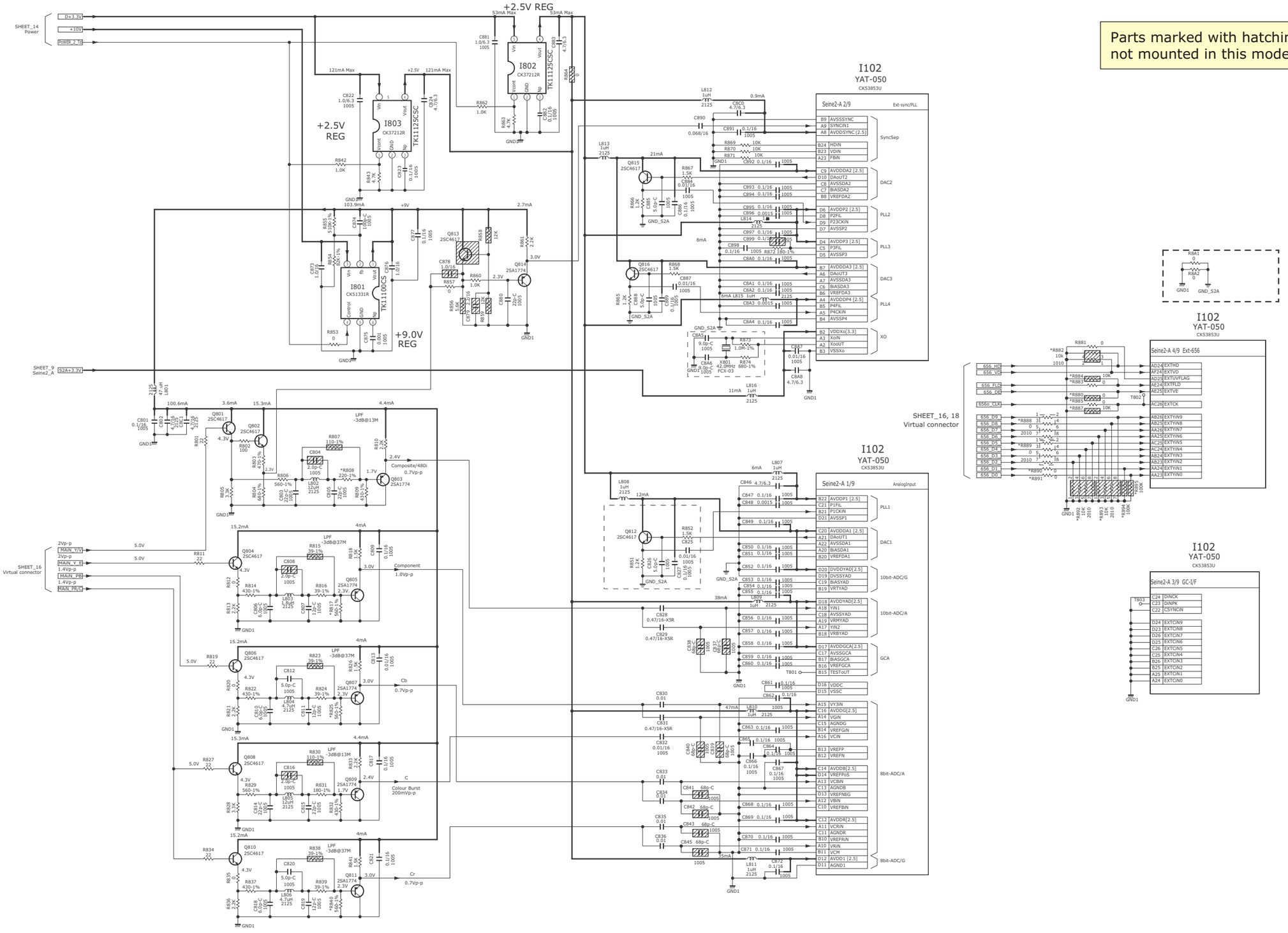



I502
TC7SG17FU
SHEET_16 Virtual connector
SDCLK_oUT
R524 10
OUT
GND
IN
SHEET_11 Video out
D+2.5V
VCC
NC
CK55511R
C509 0.1/16 1005
GND1
I501
EPM240T100C5N
Nereid
CK52813U
PoWER1_iN
0: Sub uConPower ON
1: Sub uConPower OFF
Q501
SRC1202EF
50/60/100/120HZ,5V
AC_CLK
SNF_CNG
Parts marked with hatching are not mounted in this model.

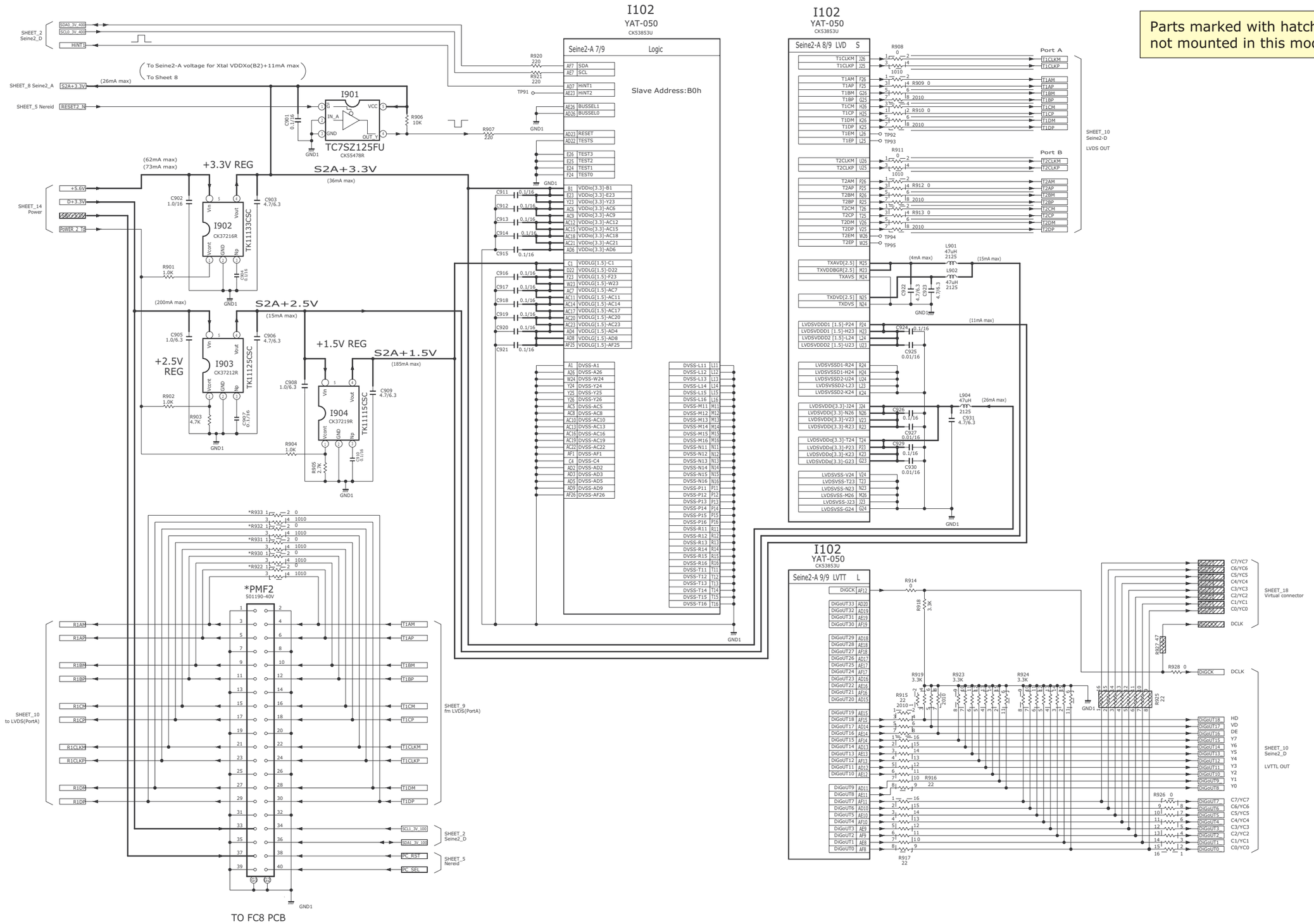
Parts marked with hatching are not mounted in this model.



Parts marked with hatching are not mounted in this model.



Parts marked with hatching are not mounted in this model.



SM017	MAIN BOARD CIRCUIT - SHEET 8	HITACHI

Parts marked with hatching are not mounted in this model.

LVDS, LVTTL I/F

T S I/F

LVDS Input

*I101
TC90411XBG
CK53761U

6/13 Seine2 LVDS RX input

SHEET_9 Seine2-A Port A

R1AM R1AP R1BM R1BP R1CM R1CP R1CLKM R1CLKP R1DM R1DP

*RA01 100 *RA02 100 *RA03 100 *RA04 100 *RA05 100

D2 RA1_N D1 RA1 E2 RB1_N E1 RB1 F2 RC1_N F1 RC1 G2 RCLK1_N G1 RCLK1 H2 RD1_N H1 RD1

SHEET_9 Seine2-A Port B

T2AM T2AP T2BM T2BP T2CM T2CP T2CLKM T2CLKP T2DM T2DP

*RA06 100 *RA07 100 *RA08 100 *RA09 100 *RA10 100

J2 RA2_N J1 RA2 K2 RB2_N K1 RB2 L2 RC2_N L1 RC2 M2 RCLK2_N M1 RCLK2 N2 RD2_N N1 RD2

SHEET_14 Power D+3.3V

*LA01 30uH 2125 *CA01 1.0/16 *CA02 0.1/16 1005 *CA03 0.01/25 1005

H6 PWR2-H6 K6 PWR2-K6 M6 PWR2-M6 P6 PWR2-P6 P3 RA2VREF G6 GND2-G6 J6 GND2-J6 L6 GND2-L6 N6 GND2-N6

+1.3V REG

*IA01 CK54332R MM3141DNRE VOUT NC VDD GND CE

*CA04 1.0/16 *CA05 0.1/6.3 *CA06 4.7/6.3 GND1

M3 RXDVD L3 RXAVD N3 RXDVS K3 RXAVS

LVTTL Input

*I101
TC90411XBG
CK53761U

5/13 Seine2 D LVTTL input

SHEET_9 Seine2_A

DIGOUT15 DIGOUT14 DIGOUT13 DIGOUT12 DIGOUT11 DIGOUT10 DIGOUT9 DIGOUT8 DIGOUT7 DIGOUT6 DIGOUT5 DIGOUT4 DIGOUT3 DIGOUT2 DIGOUT1 DIGOUT0

Y7 Y6 TA01 Y5 Y4 Y3 Y2 Y1 Y0 C7/YC7 TA02 C6/YC6 TA03 C5/YC5 C4/YC4 C3/YC3 C2/YC2 C1/YC1 C0/YC0 TA04

M4 ViDIN15 N5 ViDIN14 N4 ViDIN13 P5 ViDIN12 P4 ViDIN11 P2 ViDIN10 P1 ViDIN9 R5 ViDIN8 R4 ViDIN7 R3 ViDIN6 R2 ViDIN5 R1 ViDIN4 T5 ViDIN3 T4 ViDIN2 T3 ViDIN1 T2 ViDIN0

DIGOUT18 HD U2 HDIN
DIGOUT17 VD U3 VDIN
*RA11 10 DCLK TA05 U1 ViDCLKI
DIGOUT16 DE T1 SSYNC

C/I I/F

*PA01
501786-80V
EA03004R

*RA20 1.0K

SBADD13 SBADD12 SBADD11 SBADD10 SBADD9 SBADD8 SBADD7 SBADD6 SBADD5 SBADD4 SBADD3 SBADD2 SBADD1 SHEET_1 Seine2_D

SBDAT7 SBDAT6 SBDAT5 SBDAT4 SBDAT3 SBDAT2 SBDAT1 SBDAT0 SBOE_N SBWE_N SBBE0_N SBACK_N

SBCLK_1 RESET1_N dB_ConF_PRoG dB_ConF_INIT dB_ConF_DoNE SHEET_5 Neraid SHEET_2 Seine2_D

MAIN_CLK MAIN_D0 MAIN_EN MAIN_SYNC

*RA23 0 2010 *RA43 0 2010

MAIN_D0 MAIN_EN MAIN_CLK MAIN_SYNC

*RA21 0 1010 SBADD14 SBADD15 SBCE7_N SHEET_1 Seine2_D

*RA22 0 1010 *RA25 0 2010 RA22

MPEG_PCLK MPEG_PD7 MPEG_PEN MPEG_PSYNC

*RA24 0 2010 *RA42 0 2010

MPEG_PD6 MPEG_PD5 MPEG_PD4 MPEG_PD3 MPEG_PD2 MPEG_PD1 MPEG_PD0 SHEET_16 Virtual connector

RA44 0 1010

SBCE6a_N SHEET_5 PoD_IRQ_N SHEET_2

PG_+5.6V +5.6V SHEET_14 Power

*RA27 0 GND1

TS I/F from POD to Tenko4

TSPi_SYNC TSPi_EN TSPi_D0 TSPi_CLK

Tenko4 for recording

TST1_D0 TST1_EN TST1_SYNC TST1_CLK TS0_CLK TS0_SYNC TS0_EN TS0_D0 SHEET_18 Virtual connector

from i-Link via Tenko4

TS2_CLK TS2_SYNC TS2_EN TS2_D0

from HDD via Tenko4

TS1_CLK TS1_SYNC TS1_EN TS1_D0

TSP
*I101
TC90411XBG
CK53761U

4/13 Seine2 TS

TA27 TA26 TA25 TA24 TA23 TA22 TA21 TA28 TA29 TA30 TA31 TA32 TA33 TA34 TA35 TA36 TA37

AJ17 TS0DATA7 AJ18 TS0DATA6 AK18 TS0DATA5 AJ19 TS0DATA4 AK19 TS0DATA3 AJ20 TS0DATA2 AK20 TS0DATA1 AJ21 TS0DATA0 AJ23 TS0VALID AJ22 TS0SYNC AL20 TS0CLK AL24 TS1DATA0 AK26 TS1VALID AK25 TS1SYNC AL25 TS1CLK AH26 TS2DATA AJ26 TS2VALID AJ25 TS2SYNC AJ24 TS2CLK AN23 TS3DATA0 AN24 TS3VALID AM24 TS3SYNC AN25 TS3CLK AM25 TSREQ0 AN26 TSREQ1 AN19 TSoUTDATA0 AK17 TSoUTVALID AL19 TSoUTSYNC AL17 TSoUTCLKo AL16 TSoUTCLKi AL18 TSoUTCGMS

*RA29 0 2010 *RA31 0 2010 *RA30 0 2010 *RA36 0 2010 *RA33 0 2010 *RA34 0 2010 *RA35 0 2010

SUB_D0 SUB_EN SUB_SYNC SUB_CLK SHEET_16 Virtual connector

Euro:DTT(only XR)

*RA37 47 1010 *RA38 47 *RA39 47 *RA40 47 *RA41 47

To i-Link via Tenko4

SBCLK_4 TSo_CLK TSo_SYNC TSo_EN TSo_D0

Tenko4 for flow control

TS1_REQ TS0_REQ

Tenko4 for recording

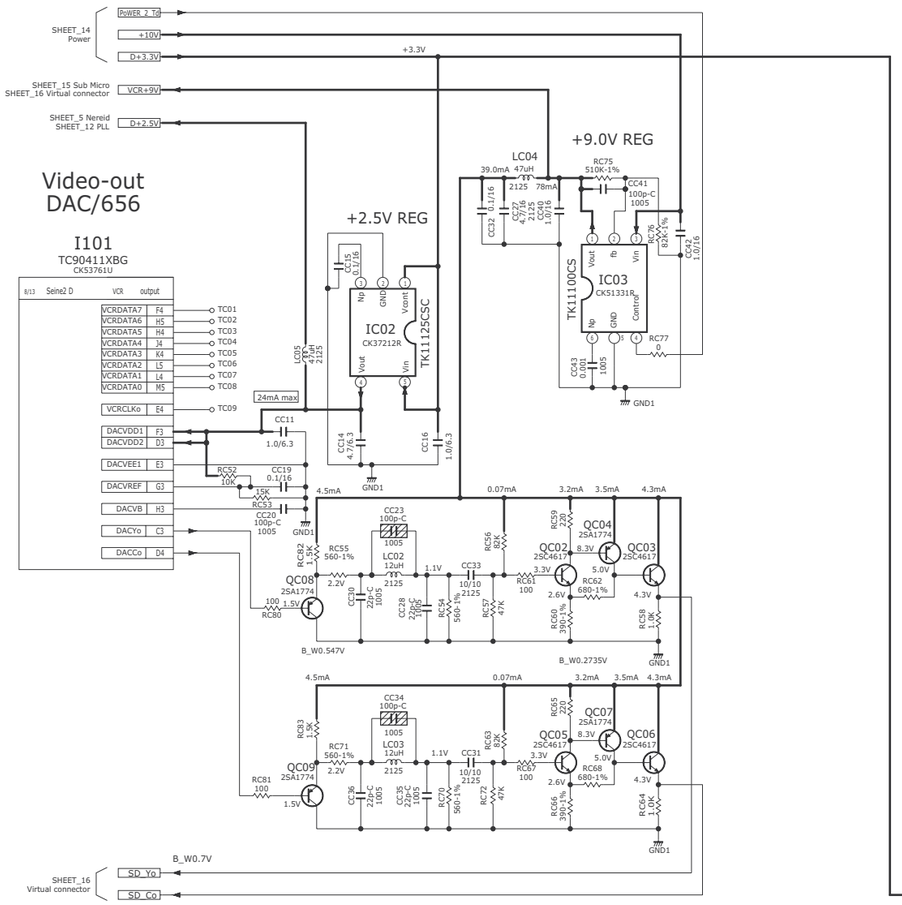
TS3_CLK TS3_SYNC TS3_EN TS3_D0 TST2_D0 TST2_EN TST2_SYNC TST2_CLK SHEET_18 Virtual connector

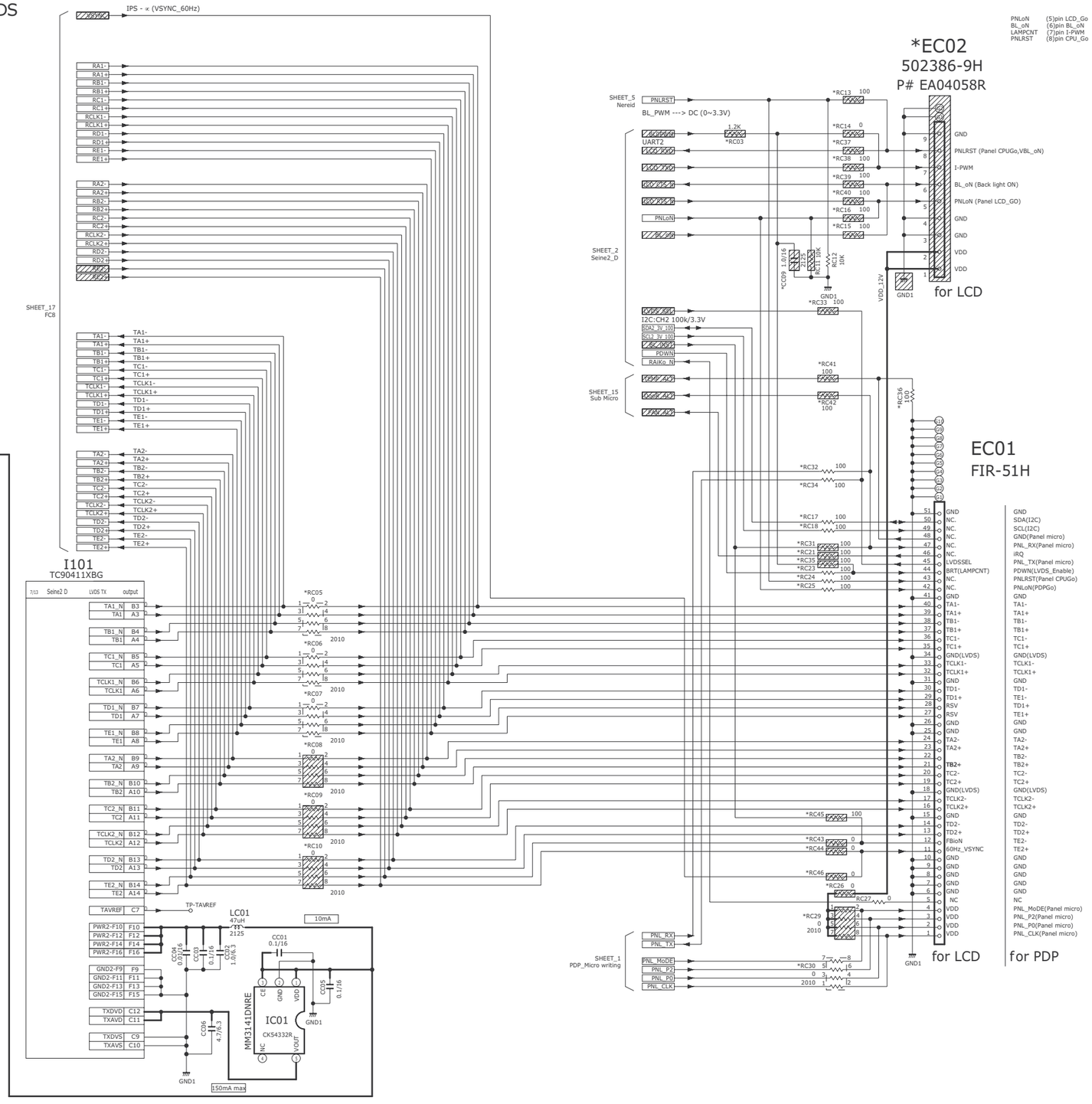
TS I/F from Tenko4 to C/I

TSPo_CLK TSPo_D0 TSPo_EN TSPo_SYNC

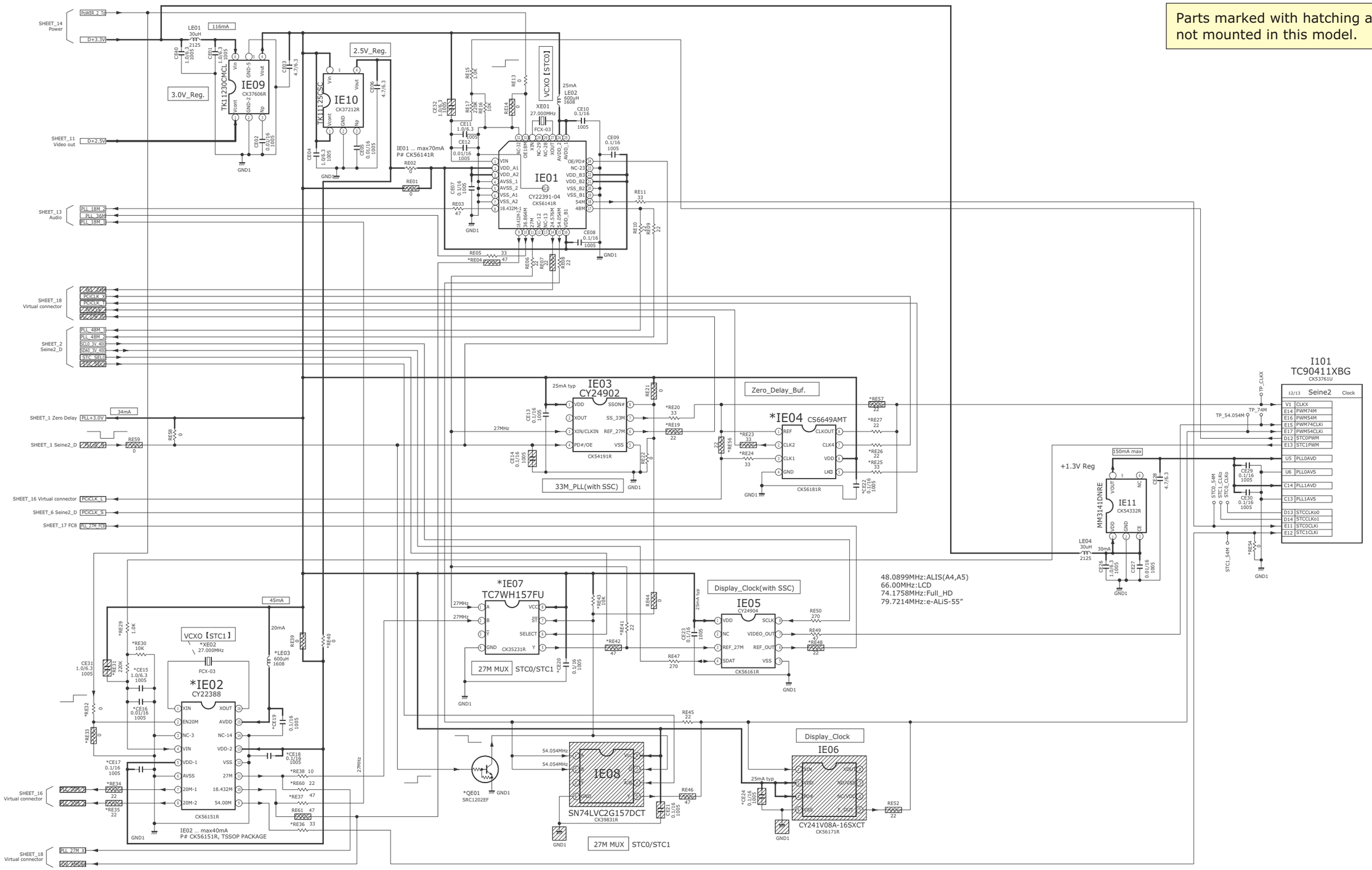
Parts marked with hatching are not mounted in this model.

Panel-IF LVDS





Parts marked with hatching are not mounted in this model.



Parts marked with hatching are not mounted in this model.

Seine2 A-chip

Seine2-A 6/9 HDMI Audio

I102 YAT-050 CK53853U

IF01 AK4121A

SRC1

IF02 PCM1808 ADC1

IF03 PCM1808 ADC2

*IF09 SN74LVC244APW

*IF10 TC7SZ125FU

*IF11 TC7SZ125FU

I101 TC90411XBG CK53761U

9/13 Seine2 D Audio

Seine2 D-chip

IF12 WM8520-SP6 DAC1

*IF13 WM8520-SP6 DAC2

*IF20 TC7SZ125FU

IF04 SN74LVC244APW

IF05 NJU26040V-08A

IF06 TAS5086 PWM

Audio_DSP

Slave Address:3Ch

IF07 TAS5132DDV D-Amp

PSPK PA-04V

IF16 TK11133CSC 3.3V_Reg

IF17 TK11133CSC 5.0V_Reg

IF18 TK11150CSC 9.0V_Reg

IF19 TK11100CS 12V_Reg.

*IF14 SI-3012LU

*IF15 NJM4580V SW_out

SHEET_5 Nereid

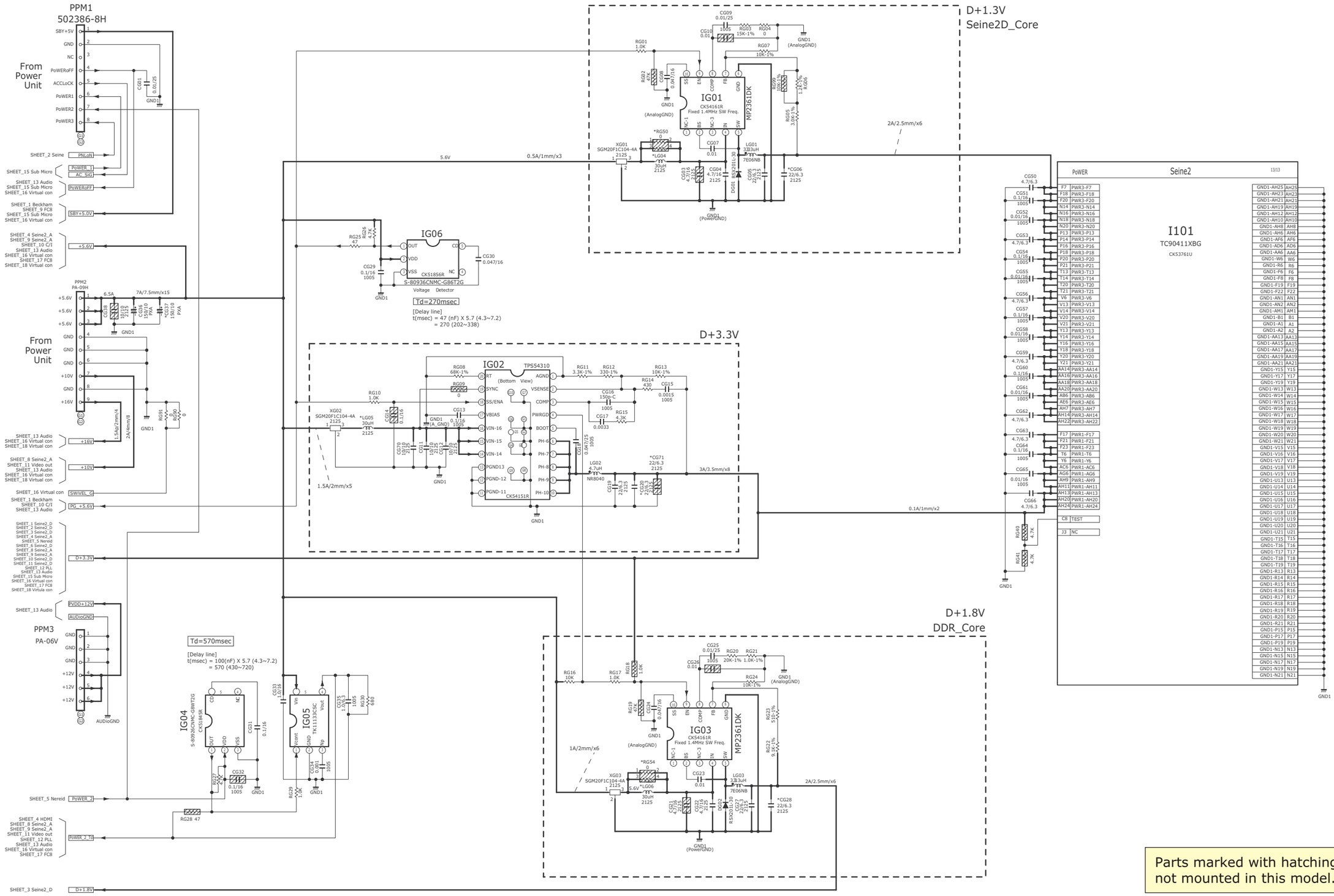
SHEET_2 Seine2_D

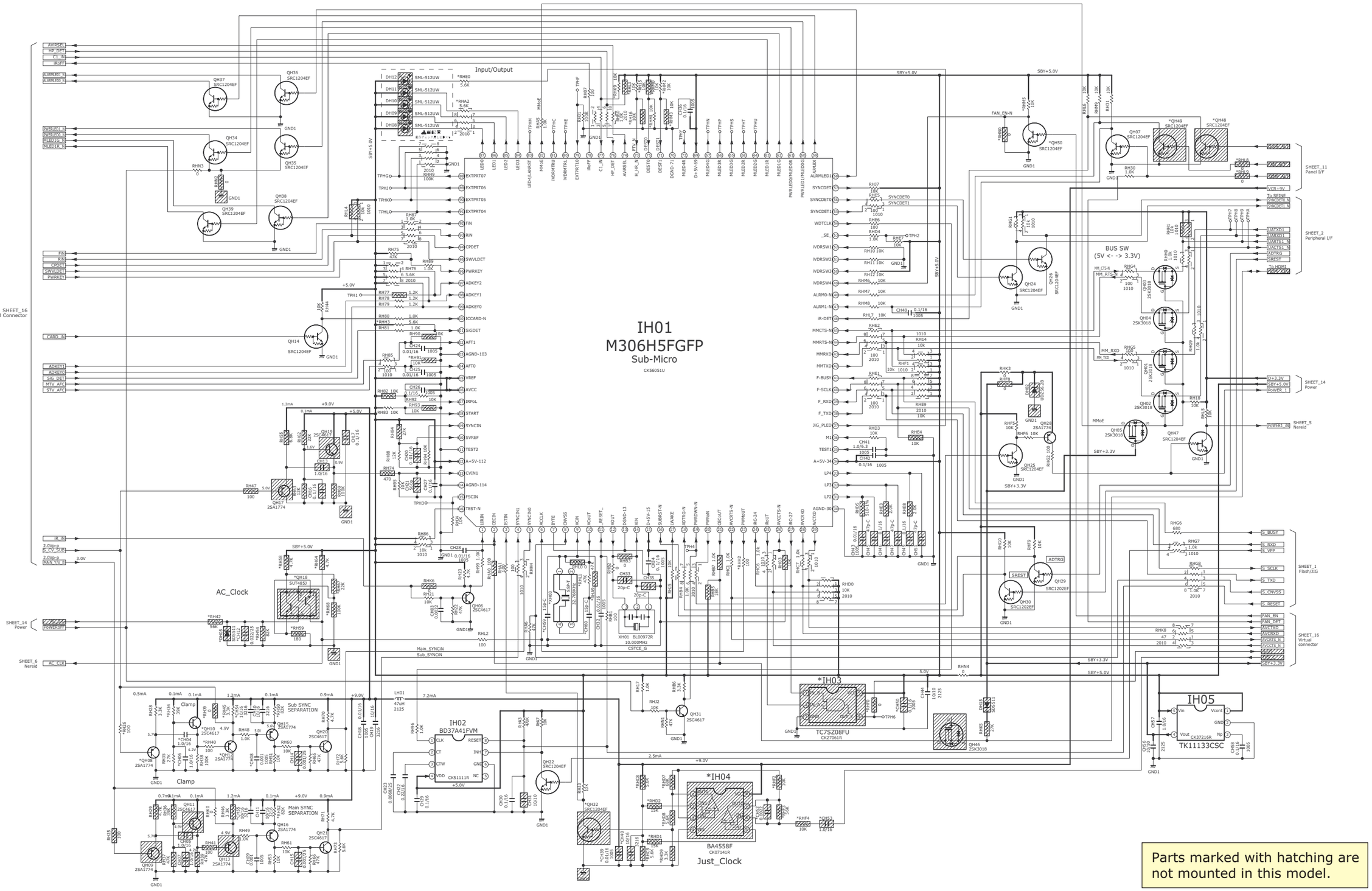
SHEET_16 Virtual connector

SHEET_18 Virtual connector

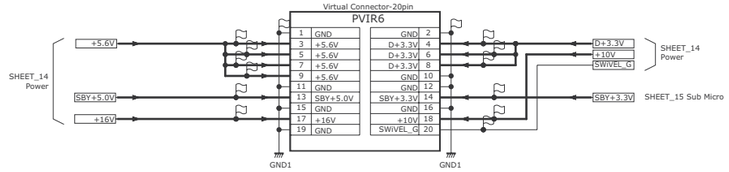
SHEET_12 PLL18.432MHz

SHEET_14 Power

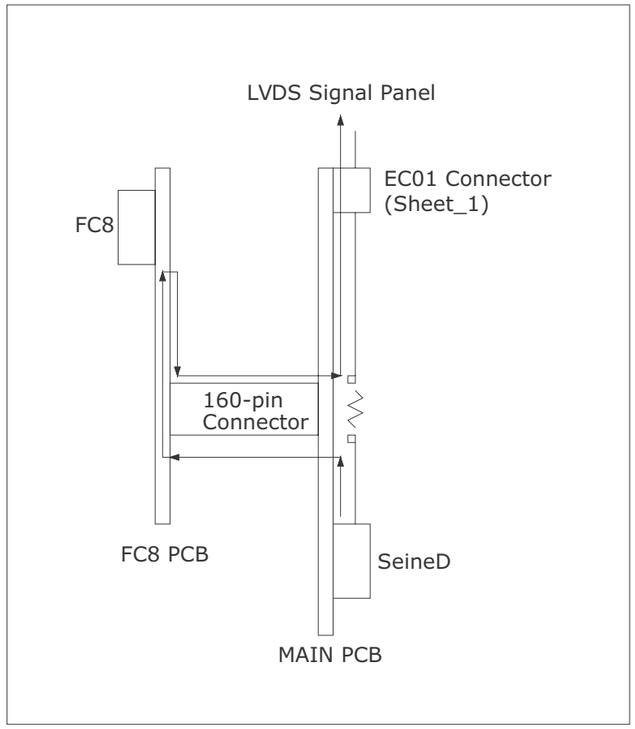

PPM1
502386-8H
From Power Unit
SBY+5V
GND
NC
PoWERoFF
ACCLoCK
PoWER1
PoWER2
PoWER3
CG01 0.01/25
SHEET_2 Seine PNLoN
SHEET_15 Sub Micro PoWER_1
AC_SIG
SHEET_13 Audio PoWERoFF
SHEET_15 Sub Micro
SHEET_16 Virtual con
SHEET_1 Beckham SBY+5.0V
SHEET_9 FC8
SHEET_15 Sub Micro
SHEET_16 Virtual con
SHEET_4 Seine2_A +5.6V
SHEET_9 Seine2_A
SHEET_10 C/I
SHEET_13 Audio
SHEET_16 Virtual con
SHEET_17 FC8
SHEET_18 Virtual con
PPM2
PA-09H
From Power Unit
+5.6V
+5.6V
+5.6V
GND
GND
GND
+10V
GND
+16V
6.5A
7A/7.5mm/x15
CG38 10/10
CG36 150/10
CG37 150/10
1.5A/2mm/4
2A/4mm/8
RG91 0
SHEET_13 Audio +16V
SHEET_16 Virtual con
SHEET_18 Virtual con
SHEET_8 Seine2_A +10V
SHEET_11 Video out
SHEET_13 Audio
SHEET_16 Virtual con
SHEET_18 Virtual con
SHEET_16 Virtual con SWIVEL_G
SHEET_1 Beckham PG +5.6V
SHEET_10 C/I
SHEET_13 Audio
SHEET_1 Seine2_D D+3.3V
SHEET_2 Seine2_D
SHEET_3 Seine2_D
SHEET_4 Seine2_A
SHEET_5 Nereid
SHEET_6 Seine2_D
SHEET_8 Seine2_A
SHEET_9 Seine2_A
SHEET_10 Seine2_D
SHEET_11 Seine2_D
SHEET_12 PLL
SHEET_13 Audio
SHEET_15 Sub Micro
SHEET_16 Virtual con
SHEET_17 FC8
SHEET_18 Virtula con
PPM3
PA-06V
PVDD+12V
AUDioGND
SHEET_13 Audio
GND
GND
GND
+12V
+12V
+12V
AUDioGND
Td=570msec
[Delay line]
t(msec) = 100(nF) X 5.7 (4.3~7.2)
= 570 (430~720)
IG04
S-8092GCNMC-G8WT2G
CK51845R
CG31 0.1/16
CG32 0.1/16 1005
RG27 47K
RG28 47
IG05
TK11130CSC
CG33 0.1/16
CG34 0.01 1005
CG35 10/6.3 1005
RG29 1.0K
RG30 47K 680
SHEET_5 Nereid PoWER_2
SHEET_4 HDMI
SHEET_8 Seine2_A
SHEET_9 Seine2_A
SHEET_11 Video out
SHEET_12 PLL
SHEET_13 Audio
SHEET_16 Virtual con
SHEET_17 FC8
PoWER_2_1G
SHEET_3 Seine2_D D+1.8V
5.6V
0.5A/1mm/x3
IG06
S-80936CNMC-G86T2G
CK51856R
Voltage Detector
RG25 47
RG26 4.7K
CG29 0.1/16 1005
CG30 0.047/16
Td=270msec
[Delay line]
t(msec) = 47 (nF) X 5.7 (4.3~7.2)
= 270 (202~338)
D+1.3V
Seine2D_Core
IG01
CK54161R
Fixed 1.4MHz SW Freq.
MP2361DK
RG01 1.0K
CG09 0.01/25
CG10 0.01 1005
RG03 15K-1%
RG04 0
GND1 (AnalogGND)
RG07 10K-1%
RG02 82K
CG08 0.047/16
RG09 10K-1%
RG06 1.2K-1%
RG05 3.09K-1%
XG01 SGM20F1C104-4A 2125
*RG50 0
*LG04 30uH 2125
CG07 0.01
LG01 3.3uH 7E06NB
CG13 4.7/16 2125
CG04 4.7/16 2125
RS2001L-30
CG05 22/15.3 2125
*CG06 22/6.3 2125
GND1 (PowerGND)
2A/2.5mm/x6
D+3.3V
IG02
TPS54310
(Bottom View)
RG08 68K-1%
RG09 0
RG10 1.0K
RG11 3.3K-1%
RG12 330-1%
RG13 10K-1%
RG14 430
CG15 0.0015 1005
CG16 150p-C 1005
CG17 0.0033
RG15 4.3K
CG14 0.1/16
CG13 0.1/16 1005
XG02 SGM20F1C104-4A 2125
*LG05 30uH 2125
CG11 10/10 2125
CG70 10/10 2125
CG12 10/10 2125
CG10 10/10 2125
CG18 0.047/25 1005
LG02 4.7uH NR8040
*CG71 22/6.3 2125
CG19 22/6.3 2125
CG20 22/6.3 2125
3A/3.5mm/x8
1.5A/2mm/x5
GND1 (A_GND)
RT
SYNC
SS/ENA
VBIAS
VIN-16
VIN-15
VIN-14
PGND13
PGND-12
PGND-11
CK54151R
AGND
VSENSE
COMP
PWRGD
BOOT
PH-6
PH-7
PH-8
PH-9
PH-10
0.1A/1mm/x2
PoWER
Seine2
13/13
I101
TC90411XBG
CK53761U
CG50 4.7/6.3
CG51 0.1/16 1005
CG52 0.01/16 1005
CG53 4.7/6.3
CG54 0.1/16 1005
CG55 0.01/16 1005
CG56 4.7/6.3
CG57 0.1/16 1005
CG58 0.01/16 1005
CG59 4.7/6.3
CG60 0.1/16 1005
CG61 0.01/16 1005
CG62 4.7/6.3
CG63 4.7/6.3
CG64 0.1/16 1005
CG65 0.01/16 1005
CG66 4.7/6.3
RG40 4.7K
RG41 4.7K
C8 TEST
J3 NC
D+1.8V
DDR_Core
IG03
CK54161R
Fixed 1.4MHz SW Freq.
MP2361DK
RG16 10K
RG17 1.0K
RG18 10K
CG25 0.01/25
RG20 20K-1%
RG21 1.0K-1%
CG26 0.01
RG24 10K-1%
RG19 47K
CG24 0.047/16
RG23 510-1%
RG22 9.1K-1%
1A/2mm/x6
*RG54 0
XG03 SGM20F1C104-4A 2125
*LG06 30uH 2125
CG23 0.01
LG03 3.3uH 7E06NB
2A/2.5mm/x6
CG21 4.7/16 2125
CG22 4.7/16 2125
RS2001L-30
CG27 22/6.3 2125
*CG28 22/6.3 2125
GND1 (PowerGND)
Parts marked with hatching are not mounted in this model.

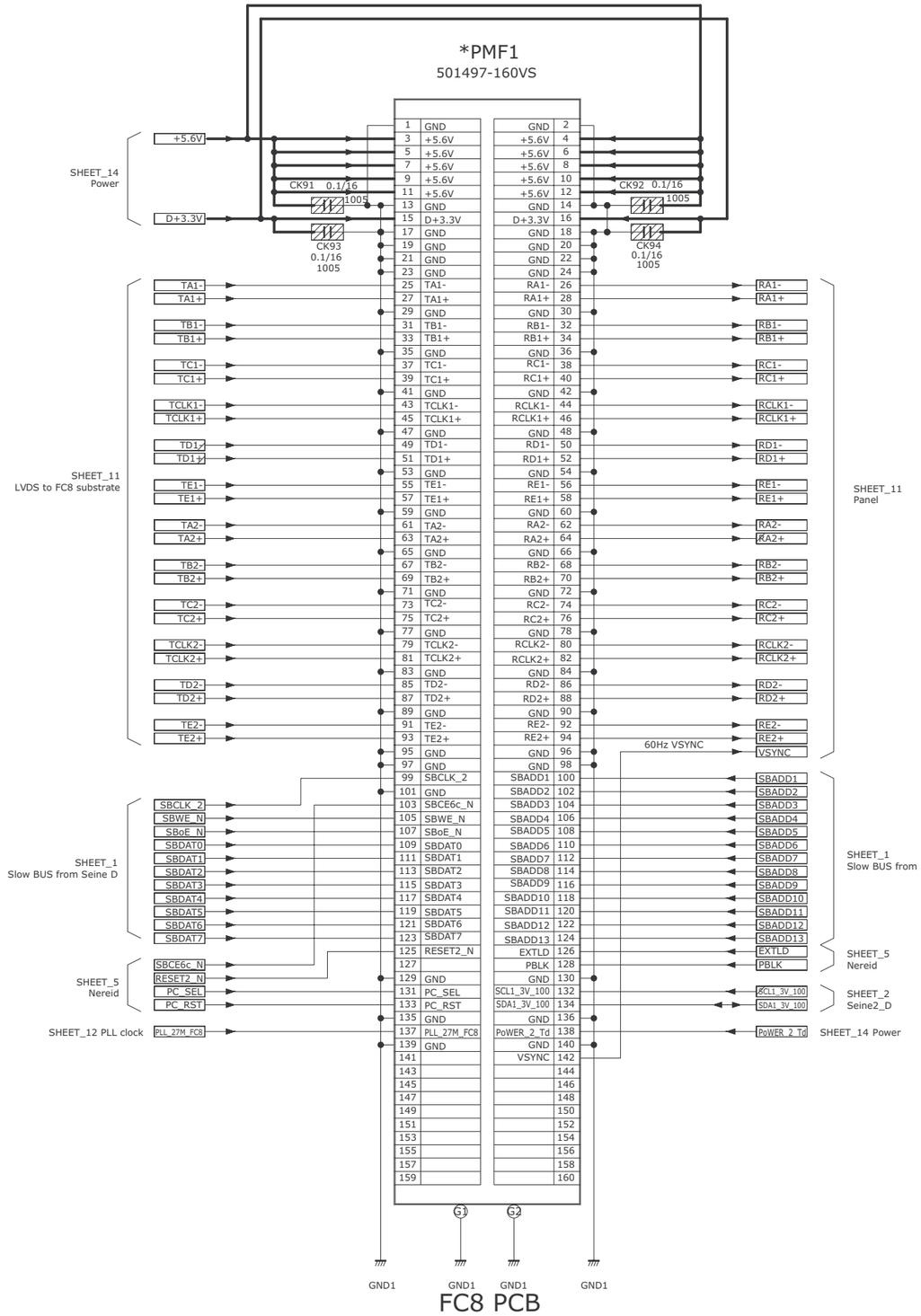

IH01
M306H5FGFP
Sub-Micro
CK56051U
Input/Output
SHEET_16
Virtual Connector
AC_Clock
Clamp
Sub SYNC SEPARATION
Main SYNC SEPARATION
IH02
BD37A41FVM
CK51111R
*IH03
TC7SZ08FU
CK27061R
*IH04
BA4558F
CK07141R
Just_Clock
IH05
TK11133CSC
CK37216R
BUS SW
(5V <- -> 3.3V)
SHEET_1 Flash/JIG
SHEET_2 Peripheral I/F
SHEET_5 Nereid
SHEET_11 Panel I/F
SHEET_14 Power
SHEET_16 Virtual connector
SHEET_6 Nereid
SHEET_14 Virtual Connector
Parts marked with hatching are not mounted in this model.

Virtual connector (Main-Sub)

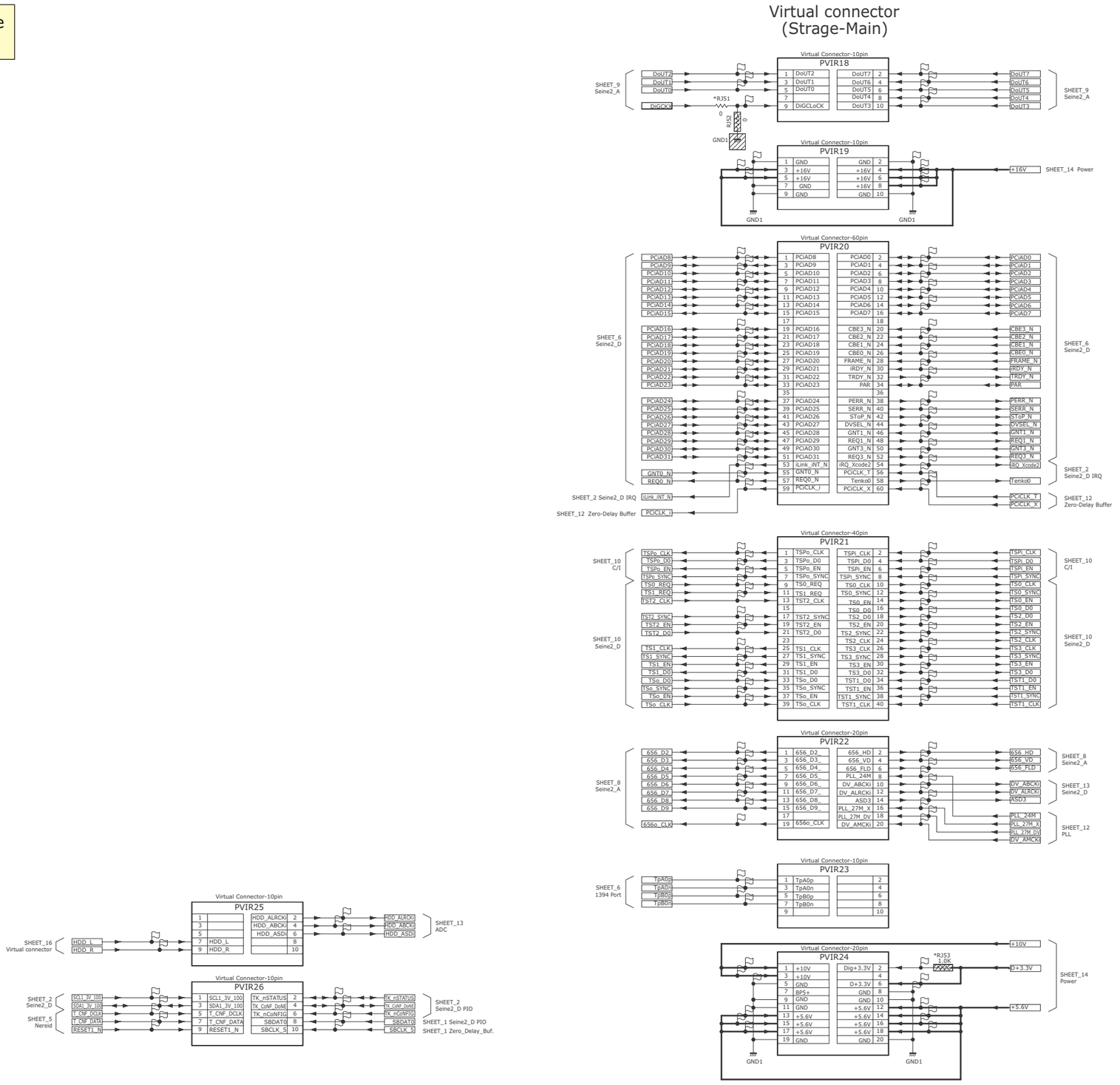


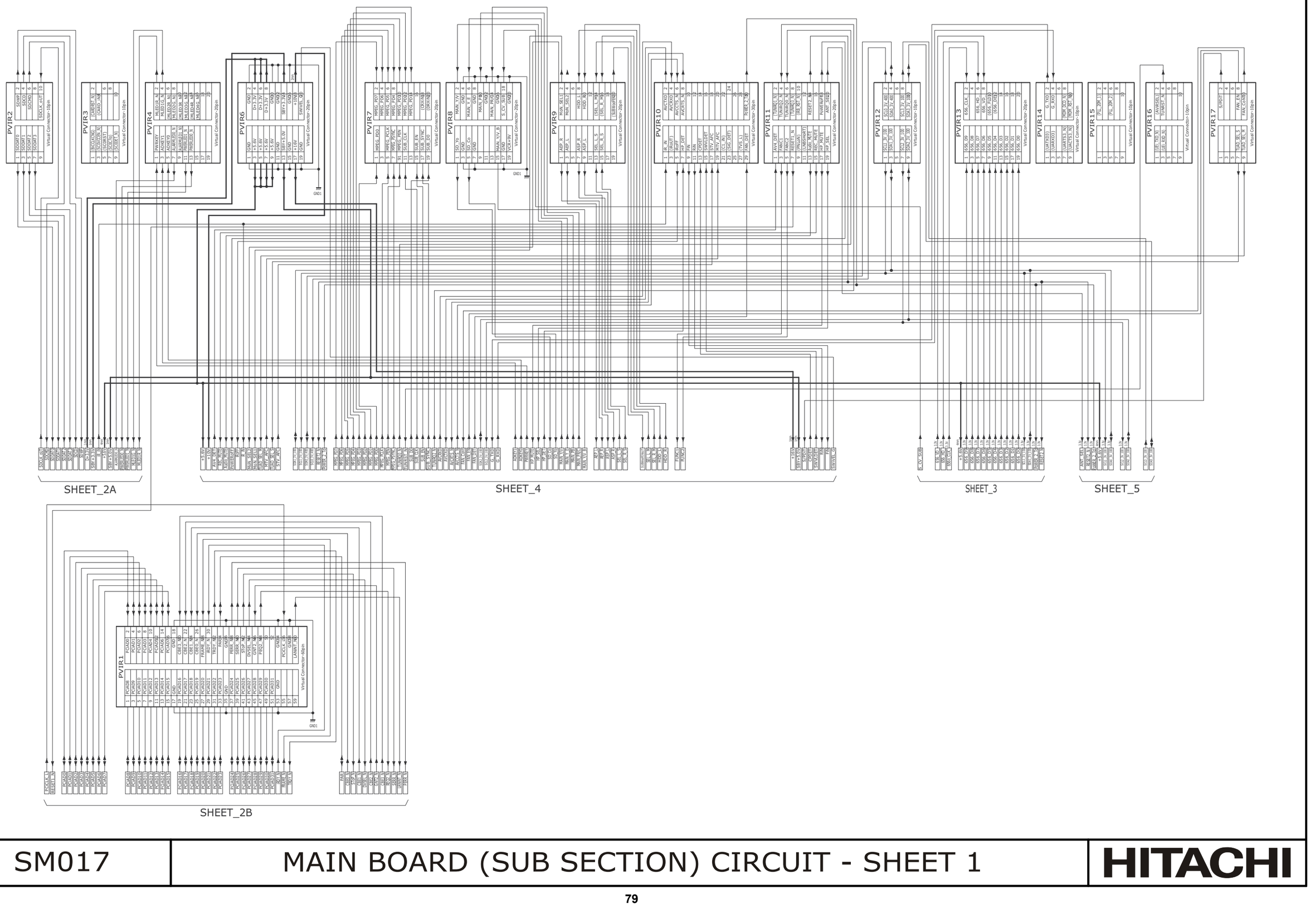
Parts marked with hatching are not mounted in this model.

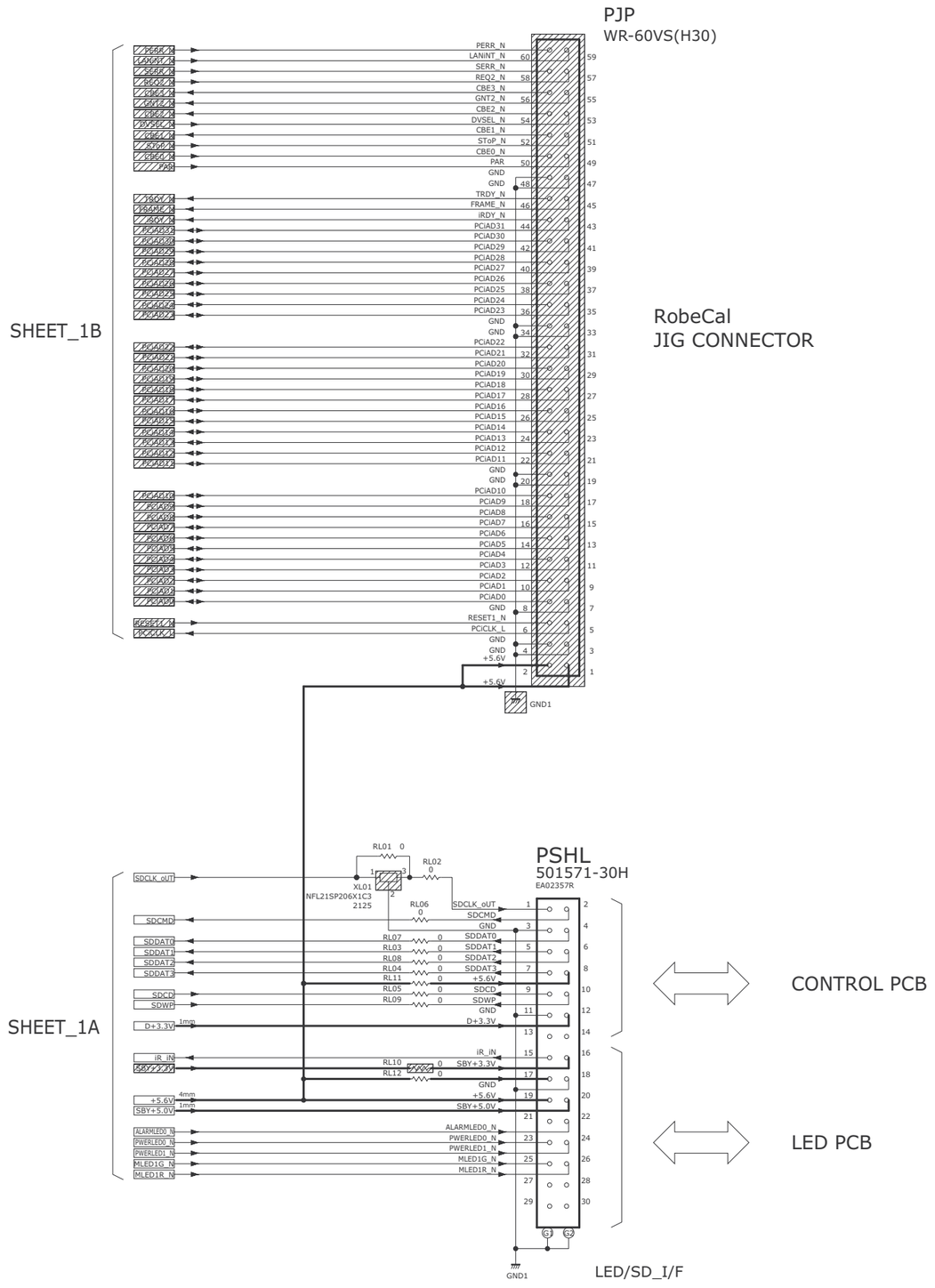




Parts marked with hatching are not mounted in this model.

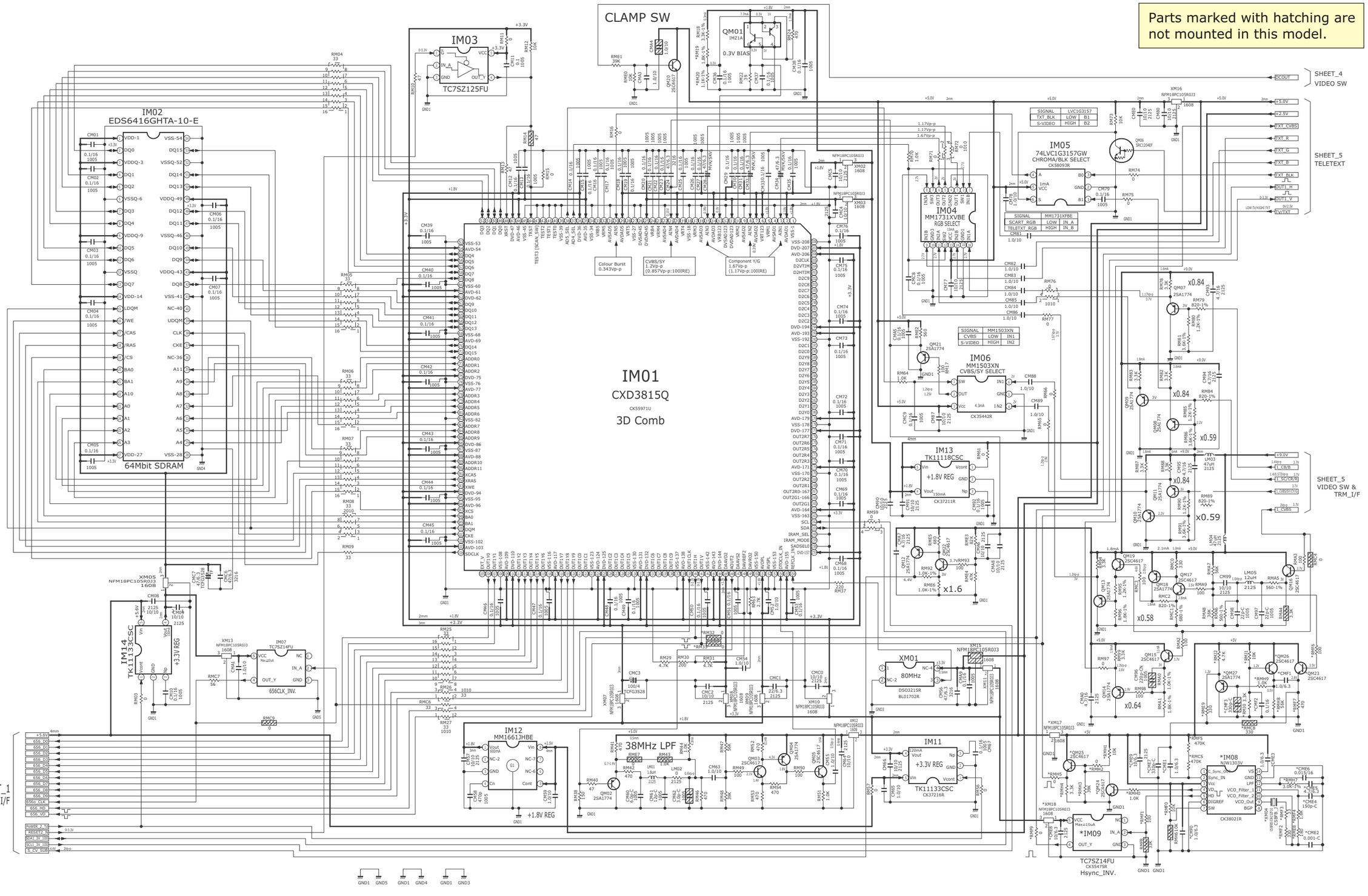



PVIR2
PVIR3
PVIR4
PVIR6
PVIR7
PVIR8
PVIR9
PVIR10
PVIR11
PVIR12
PVIR13
PVIR14
PVIR15
PVIR16
PVIR17
PVIR1
Virtual Connector-10pin
Virtual Connector-20pin
Virtual Connector-40pin
GND1
SHEET_2A
SHEET_4
SHEET_3
SHEET_5
SHEET_2B

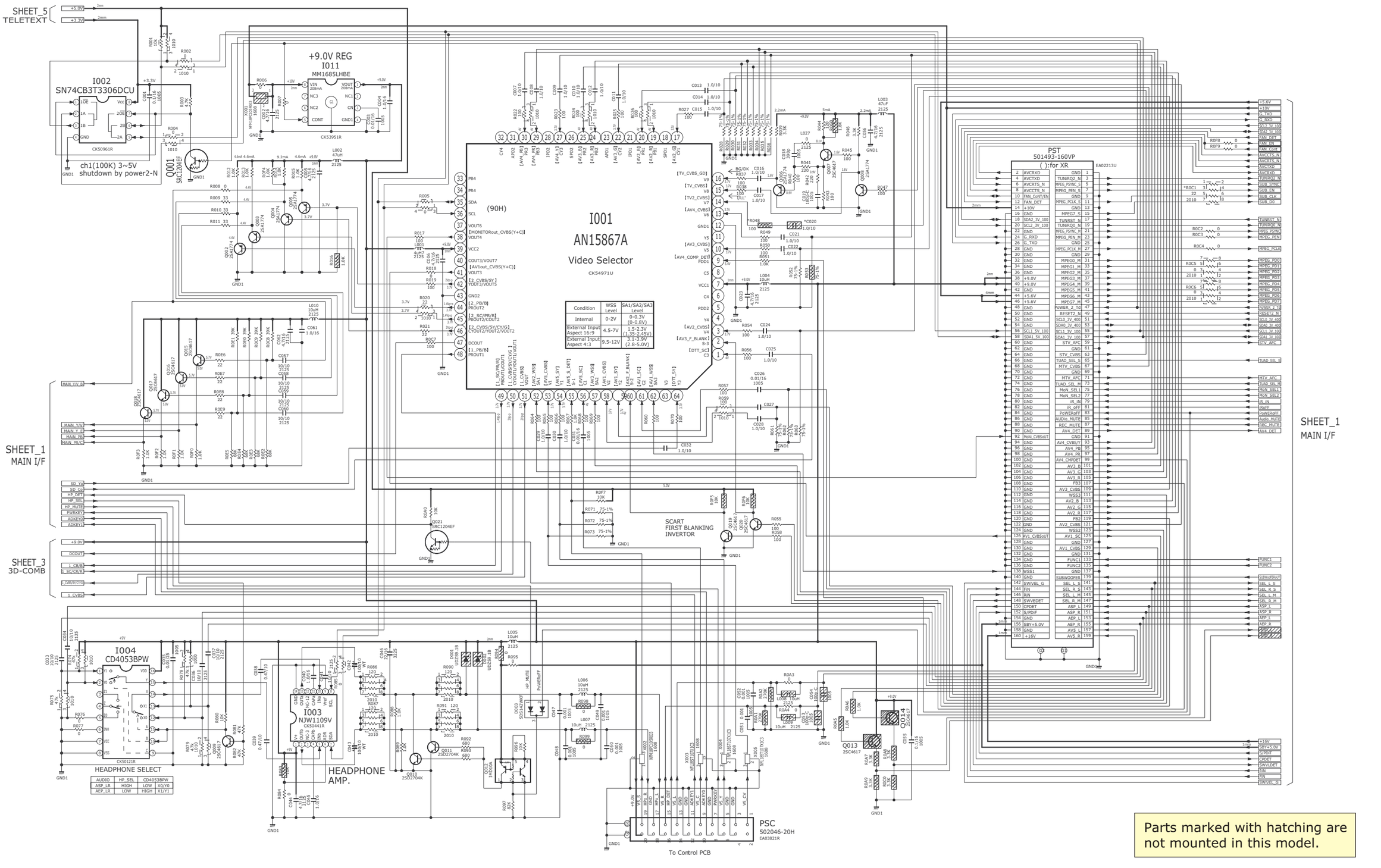


Parts marked with hatching are not mounted in this model.

Parts marked with hatching are not mounted in this model.



SM017	MAIN BOARD (SUB SECTION) CIRCUIT - SHEET 3	HITACHI


SHEET_5
TELETEXT
I002
SN74CB3T3306DCU
CK50961R
ch1(100K) 3~5V
shutdown by power2-N
+9.0V REG
I011
MM1685LHBE
CK53951R
I001
AN15867A
Video Selector
CK54971U
(90H)
Condition
WSS Level
SA1/SA2/SA3 Level
Internal
0-2V
0-0.3V (0-0.8V)
External Input Aspect 16:9
4.5-7V
1.5-2.3V (1.35-2.45V)
External Input Aspect 4:3
9.5-12V
3.1-3.9V (2.8-5.0V)
PST
501493-160VP
( ):for XR
EA02213U
SHEET_1
MAIN I/F
SHEET_3
3D-COMB
SCART
FIRST BLANKING
INVERTOR
I004
CD4053BPW
CK50121R
HEADPHONE SELECT
AUDIO
HP_SEL
CD4053BPW
ASP_LR
HIGH
LOW
X0/Y0
AEP_LR
LOW
HIGH
X1/Y1
I003
NJW1109V
CKS0441R
HEADPHONE
AMP.
PSC
502046-20H
EA03821R
To Control PCB
Parts marked with hatching are not mounted in this model.

Parts marked with hatching are not mounted in this model.

IR01
SDA6000
CK53251U
TELETEXT

SHEET_1
SHEET_3
SHEET_4

NOTE:
PARTS MARKED WITH HATCHING
ARE NOT MOUNTED IN THIS MODEL.

Audio/Video Capture

IK01
WM8784
CKS3941R

JTAG Connector
PCC
SH-10V

IX01
X-Code2_U-2111
X-Code2u AVI_IF [4/6]
CK53701U

IK02
SN74LVC1G17DCK
CK38325R

PCI BUS

TenkoIV PCI

IU01
EP2C35F484C8N
JTAG Connector
Tenko IV (EP2C35F484C8N) 1/6 PCI I/F

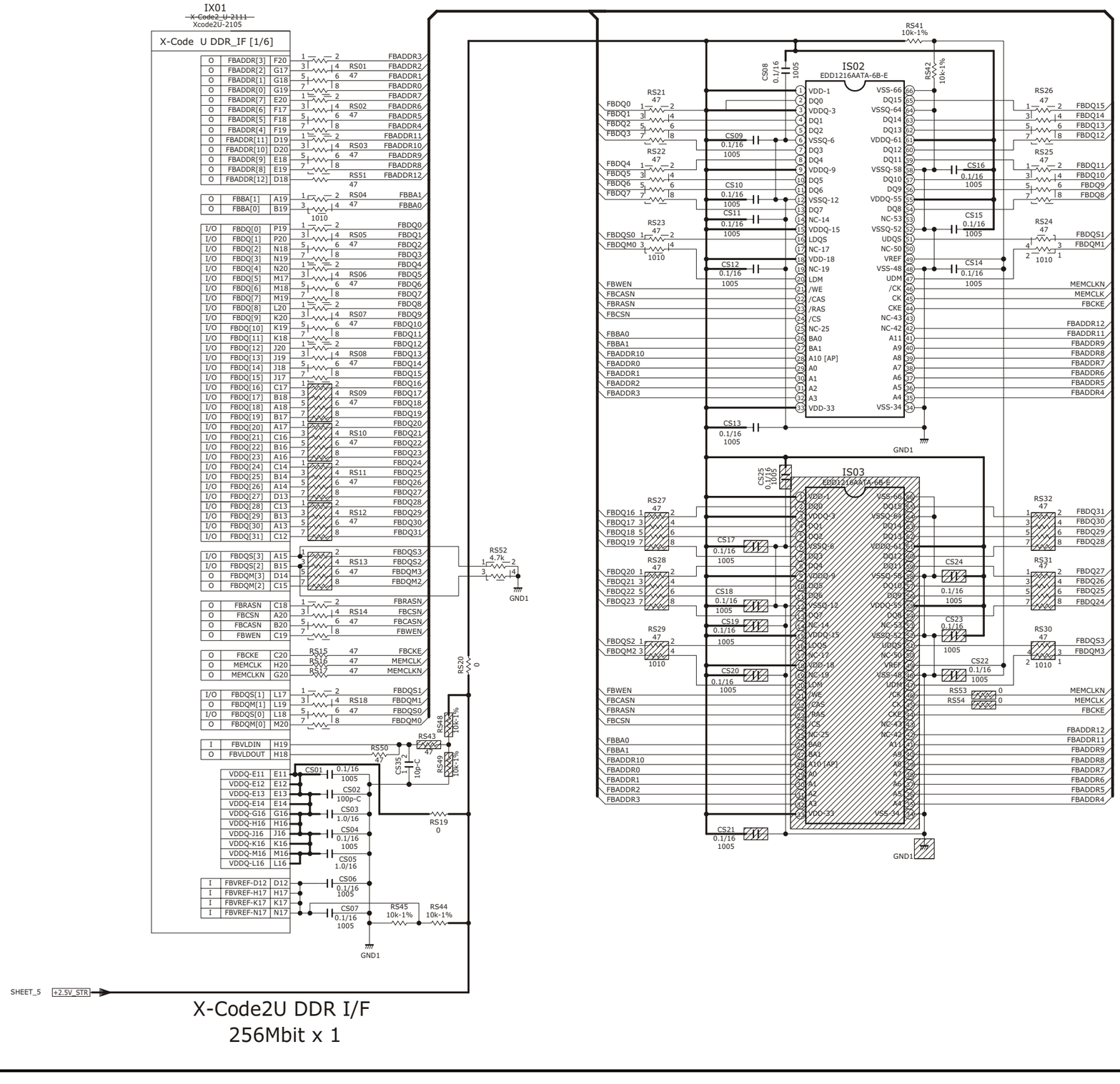
X-code2U PCI

IX01
X-Code2_U-2111
X-Code2u PCI_IF [2/6]
CK53701U

Tenko IV (EP2C35F484C8N) 5/6 Other I/F

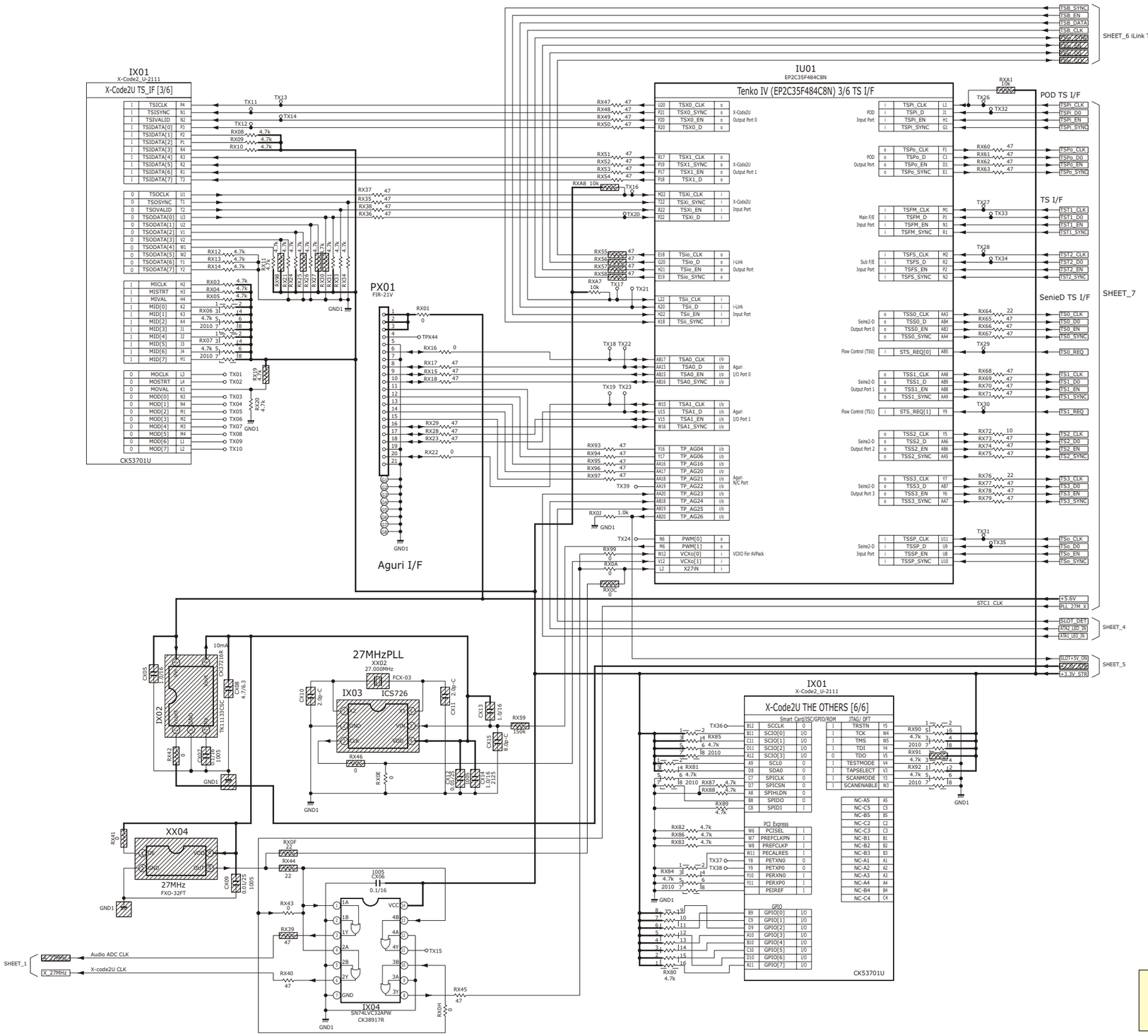
IU01
EP2C35F484C8N

PDC
WR-40VS(H30)



X-Code2U DDR I/F
256Mbit x 1

NOTE:
PARTS MARKED WITH HATCHING
ARE NOT MOUNTED IN THIS MODEL.



NOTE:
PARTS MARKED WITH HATCHING
ARE NOT MOUNTED IN THIS MODEL.

SM017	MAIN BOARD (STORAGE SECTION) CIRCUIT - SHEET 3	HITACHI

ATA I/F

DDR2 I/F
256Mbit x 1

NOTE:
PARTS MARKED WITH HATCHING
ARE NOT MOUNTED IN THIS MODEL.

SM017	MAIN BOARD (STORAGE SECTION) CIRCUIT - SHEET 4	HITACHI

NOTE:
PARTS MARKED WITH HATCHING
ARE NOT MOUNTED IN THIS MODEL.

IU01
EP2C35F484C8N
Tenko IV (EP2C35F484C8N) 6/6 Power I/F

To X-Code2U
DDR
1.8V Reg

Xcode2_1.2V
Tenko4_1.2V

IX01
X-Code2_U-2111
X-Code2U VDD/GND [5/6]

3.3V
X-code2U
Tenko4
ADC

1.8V
Tenko4
DDR2

SLOT+5V
IZ09

HDD+12V

HDD+5V

NOTE:
PARTS MARKED WITH HATCHING
ARE NOT MOUNTED IN THIS MODEL.

PCI I/F

POWER

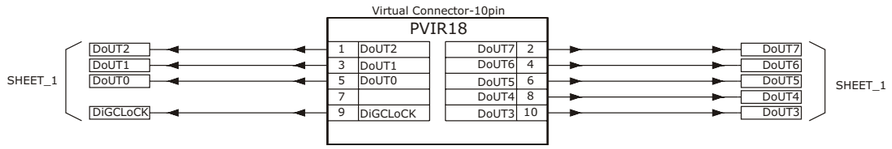
PHY I/F

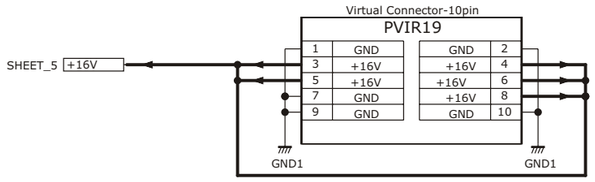
SDRAM I/F

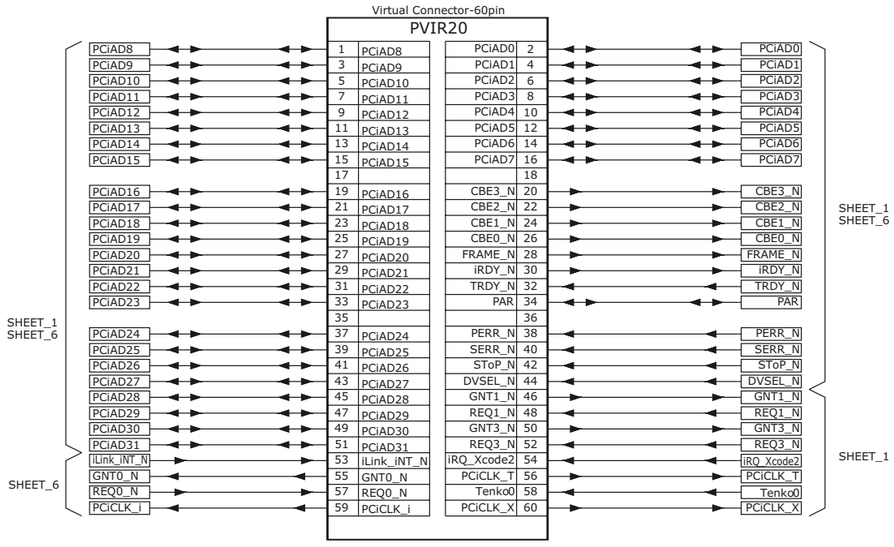
OTHER

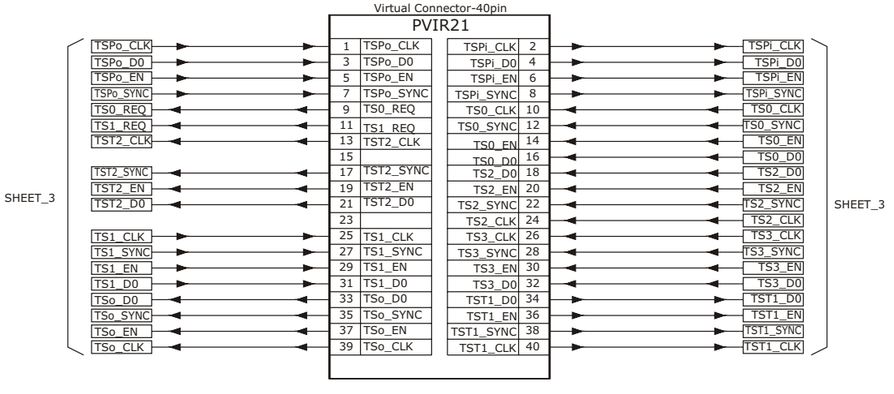
TS I/F

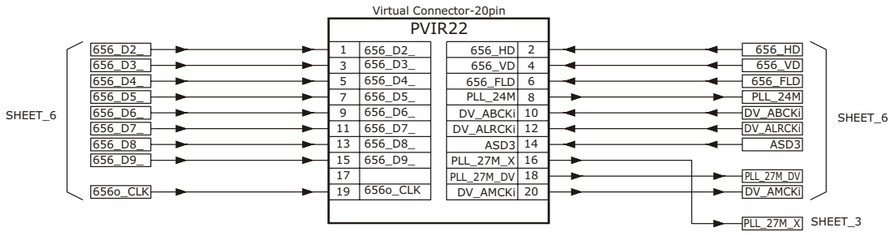
DV I/F

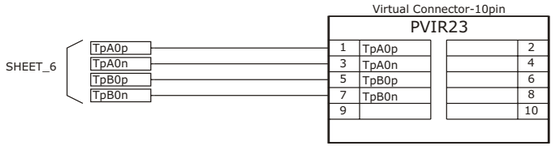

Virtual Connector-10pin
PVIR18
SHEET_1
DoUT2
DoUT1
DoUT0
DiGCLoCK
DoUT7
DoUT6
DoUT5
DoUT4
DoUT3
SHEET_1

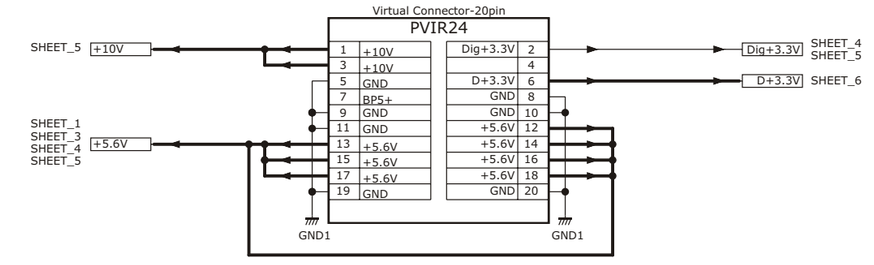

Virtual Connector-10pin
PVIR19
SHEET_5
+16V
GND1
GND1

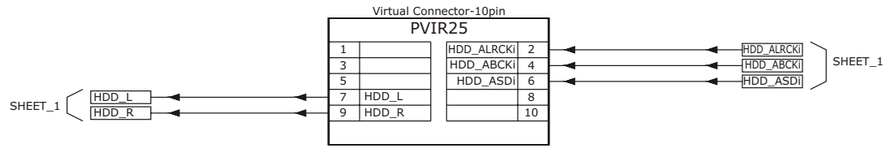

Virtual Connector-60pin
PVIR20
SHEET_1
SHEET_6
SHEET_6
SHEET_1
SHEET_6
SHEET_1

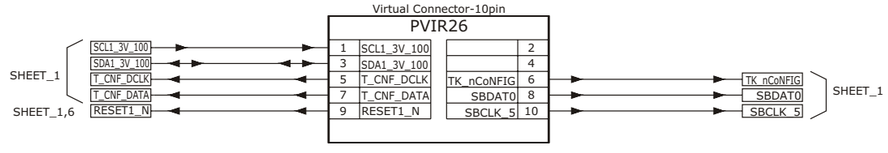

Virtual Connector-40pin
PVIR21
SHEET_3
SHEET_3


Virtual Connector-20pin
PVIR22
SHEET_6
656_D2_
656_D3_
656_D4_
656_D5_
656_D6_
656_D7_
656_D8_
656_D9_
656o_CLK
656_D2_
656_D3_
656_D4_
656_D5_
656_D6_
656_D7_
656_D8_
656_D9_
656o_CLK
656_HD
656_VD
656_FLD
PLL_24M
DV_ABCKi
DV_ALRCKi
ASD3
PLL_27M_X
PLL_27M_DV
DV_AMCKi
656_HD
656_VD
656_FLD
PLL_24M
DV_ABCKi
DV_ALRCKi
ASD3
PLL_27M_DV
DV_AMCKi
PLL_27M_X
SHEET_6
SHEET_3

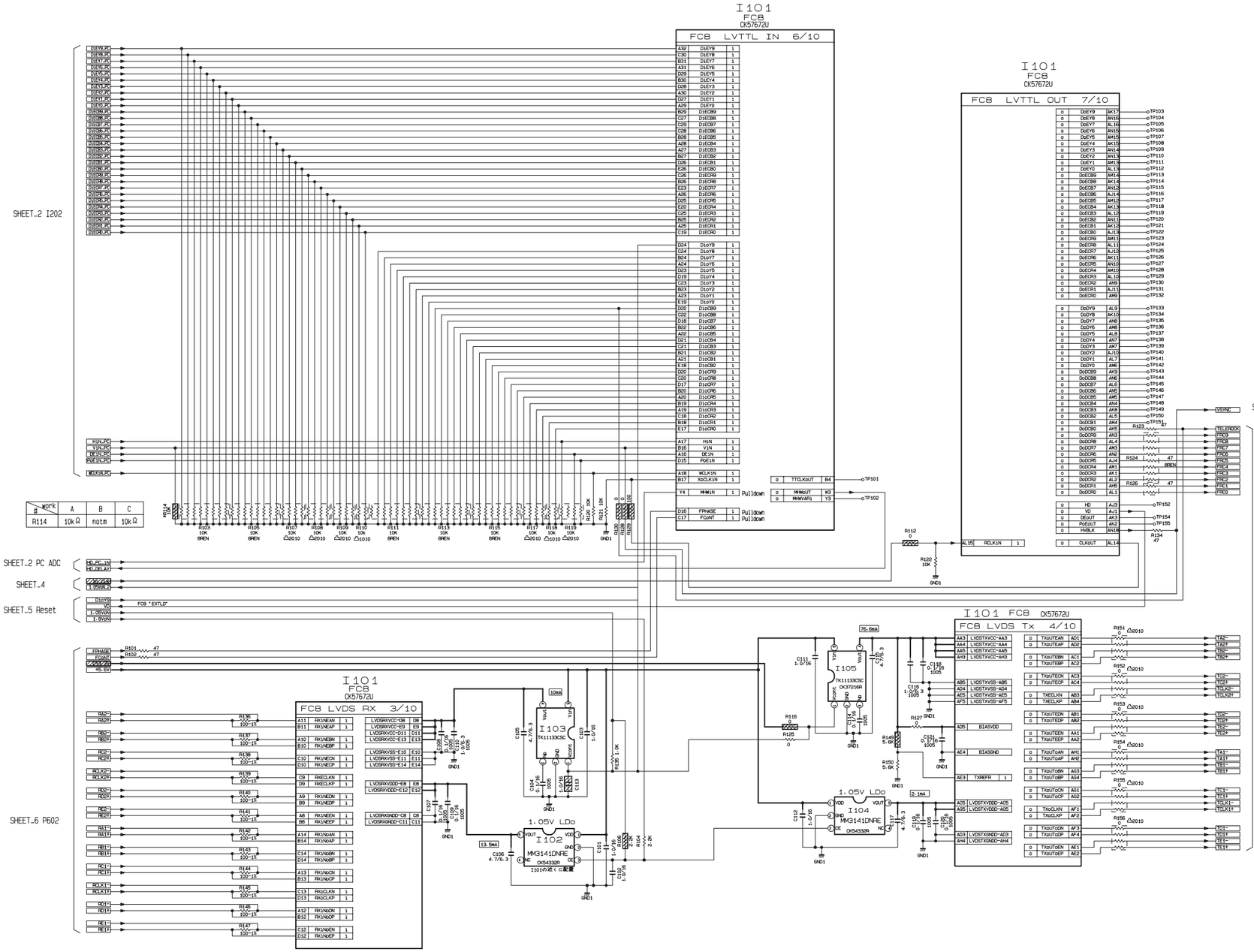

Virtual Connector-10pin
PVIR23
SHEET_6
TpA0p
TpA0n
TpB0p
TpB0n
TpA0p
TpA0n
TpB0p
TpB0n


Virtual Connector-20pin
PVIR24
SHEET_5
+10V
SHEET_1
SHEET_3
SHEET_4
SHEET_5
+5.6V
GND1
GND1
+10V
+10V
GND
BP5+
GND
GND
+5.6V
+5.6V
+5.6V
+5.6V
GND
Dig+3.3V
D+3.3V
Dig+3.3V
D+3.3V
SHEET_4
SHEET_5
SHEET_6


Virtual Connector-10pin
PVIR25
SHEET_1
HDD_L
HDD_R
HDD_L
HDD_R
HDD_ALRCKi
HDD_ABCKi
HDD_ASDi
HDD_ALRCKi
HDD_ABCKi
HDD_ASDi
SHEET_1


Virtual Connector-10pin
PVIR26
SHEET_1
SHEET_1,6
SCL1_3V_100
SDA1_3V_100
T_CNF_DCLK
T_CNF_DATA
RESET1_N
SCL1_3V_100
SDA1_3V_100
T_CNF_DCLK
T_CNF_DATA
RESET1_N
TK_nCoNFIG
SBDAT0
SBCLK_5
TK_nCoNFIG
SBDAT0
SBCLK_5
SHEET_1

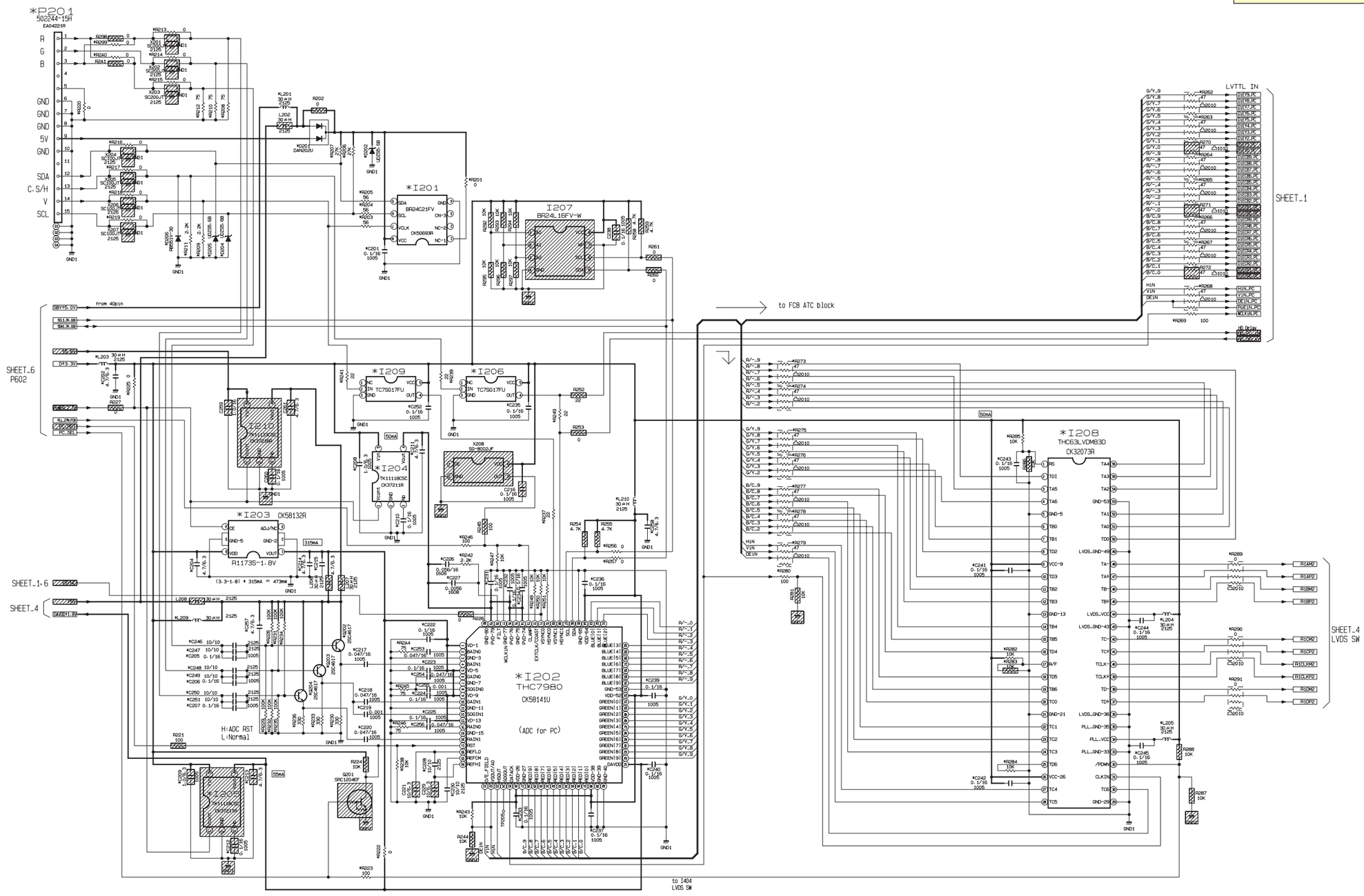
NOTE:
PARTS MARKED WITH HATCHING
ARE NOT MOUNTED IN THIS MODEL.



R114	A	B	C
10kΩ	10kΩ	notm	10kΩ

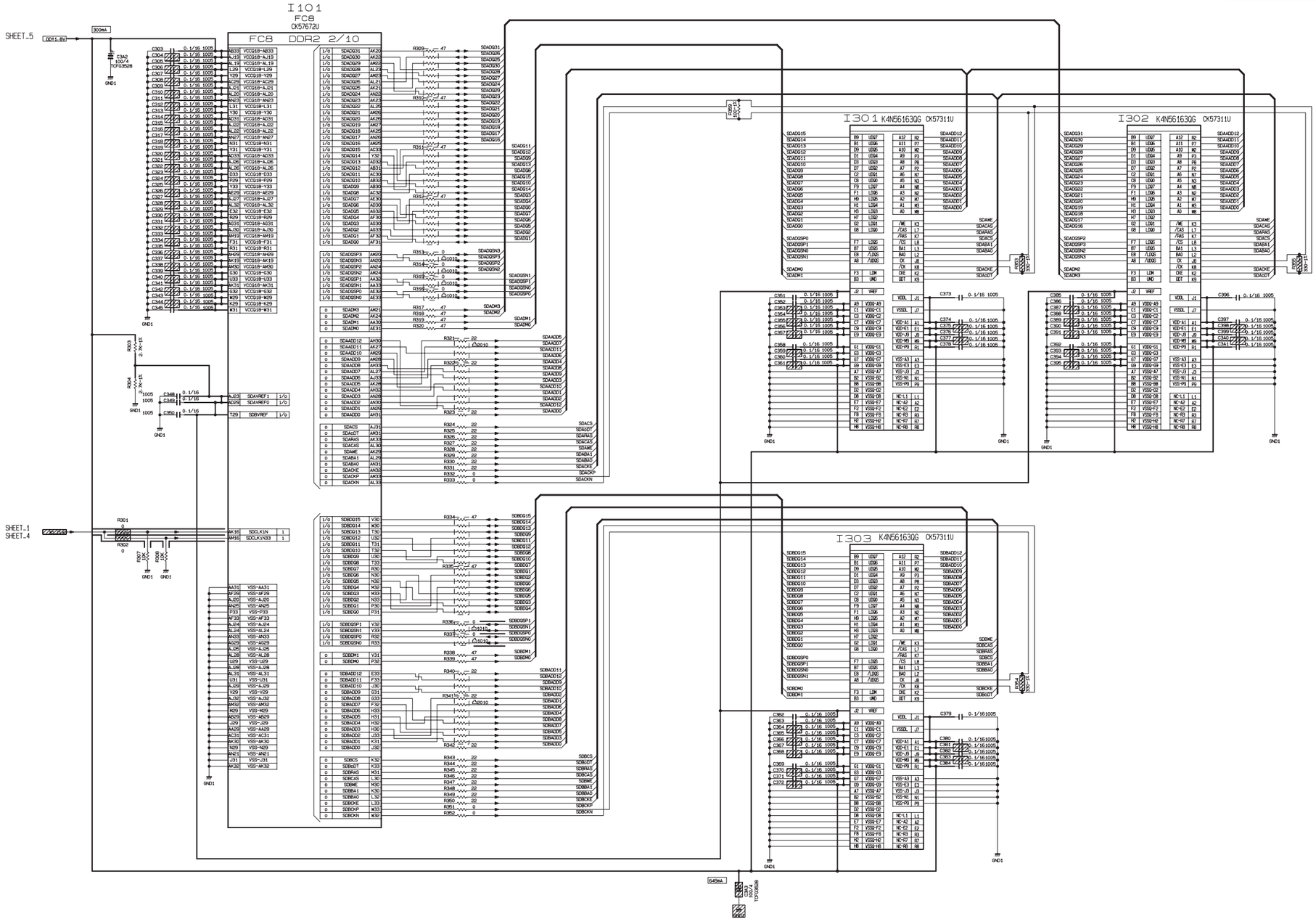
SHEET	NAME
SHEET_2 PC ADC	HD_PC_IN
	HD_DELAY
SHEET_4	1.2VDN_S
	1.2VDN_L
SHEET_5 Reset	D10Y9
	VDS
	1.05VDN
	1.8VDN
SHEET_6 P602	FDPHASE
	FCON1
	+5.0V

NOTE:
PARTS MARKED WITH HATCHING
ARE NOT MOUNTED IN THIS MODEL.

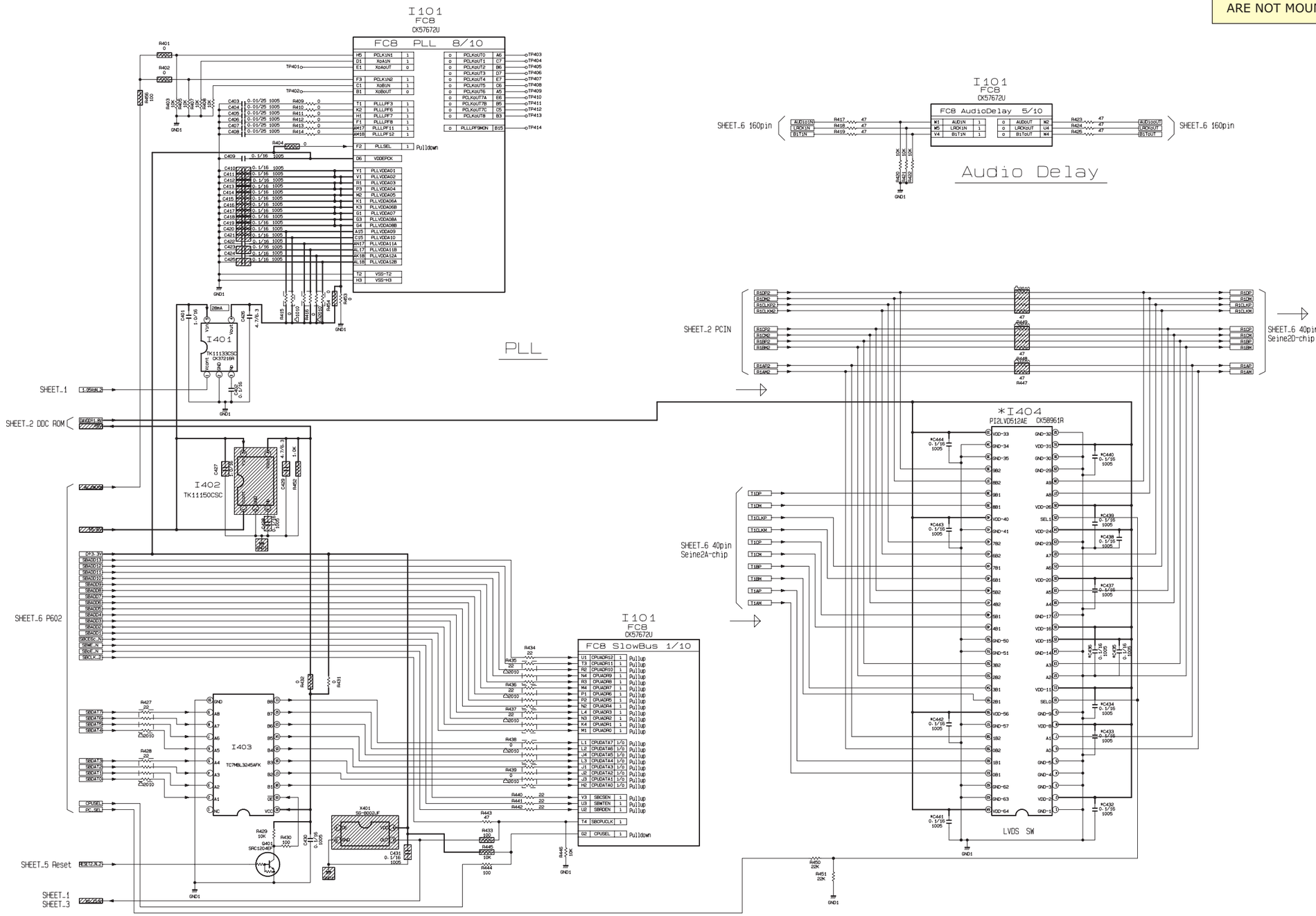


SM017	FC8 BOARD CIRCUIT - SHEET 2	HITACHI

NOTE:
PARTS MARKED WITH HATCHING
ARE NOT MOUNTED IN THIS MODEL.

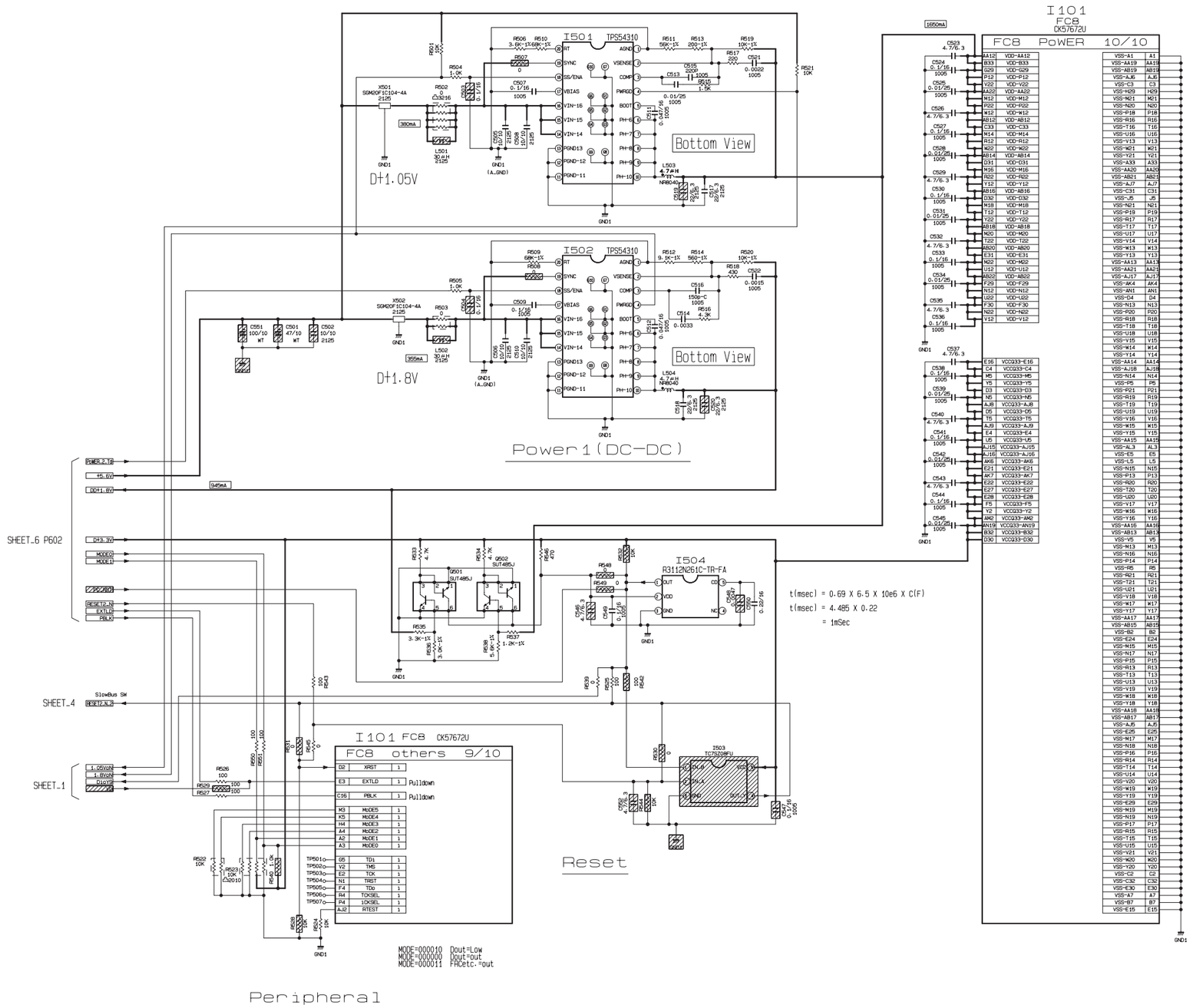


NOTE:
PARTS MARKED WITH HATCHING
ARE NOT MOUNTED IN THIS MODEL.

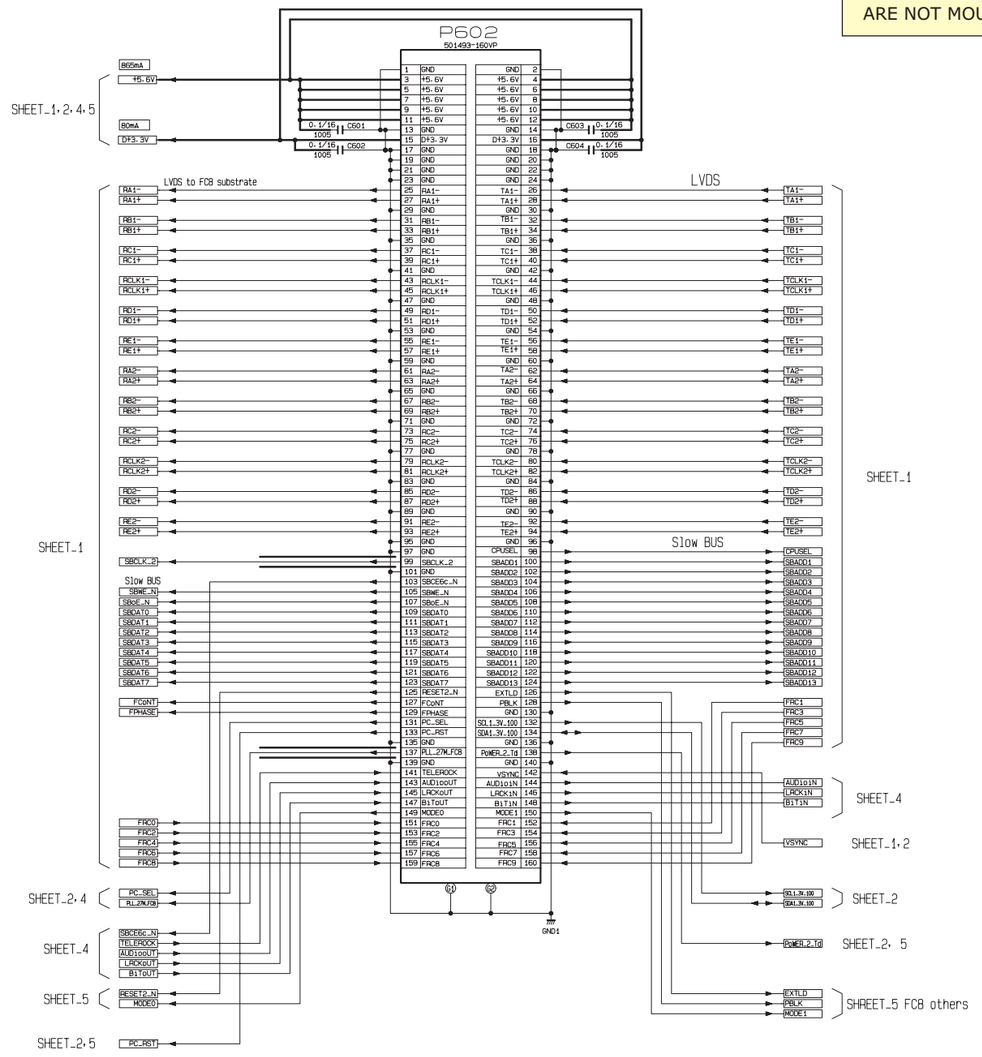


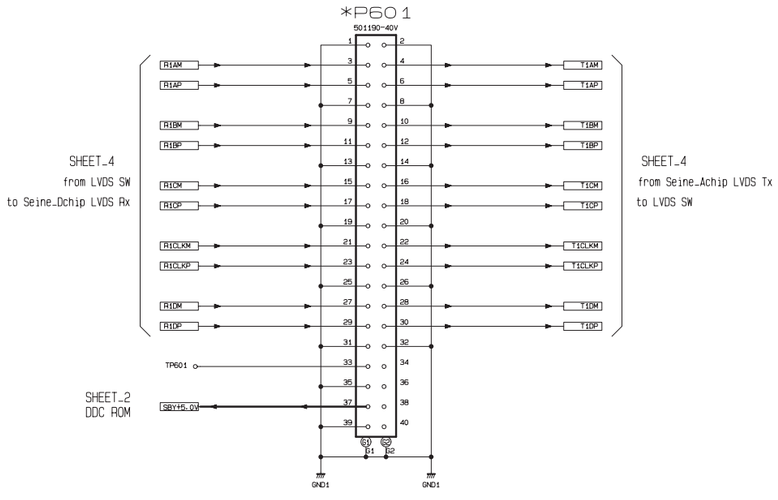
SM017	FC8 BOARD CIRCUIT - SHEET 4	HITACHI

NOTE:
PARTS MARKED WITH HATCHING
ARE NOT MOUNTED IN THIS MODEL.

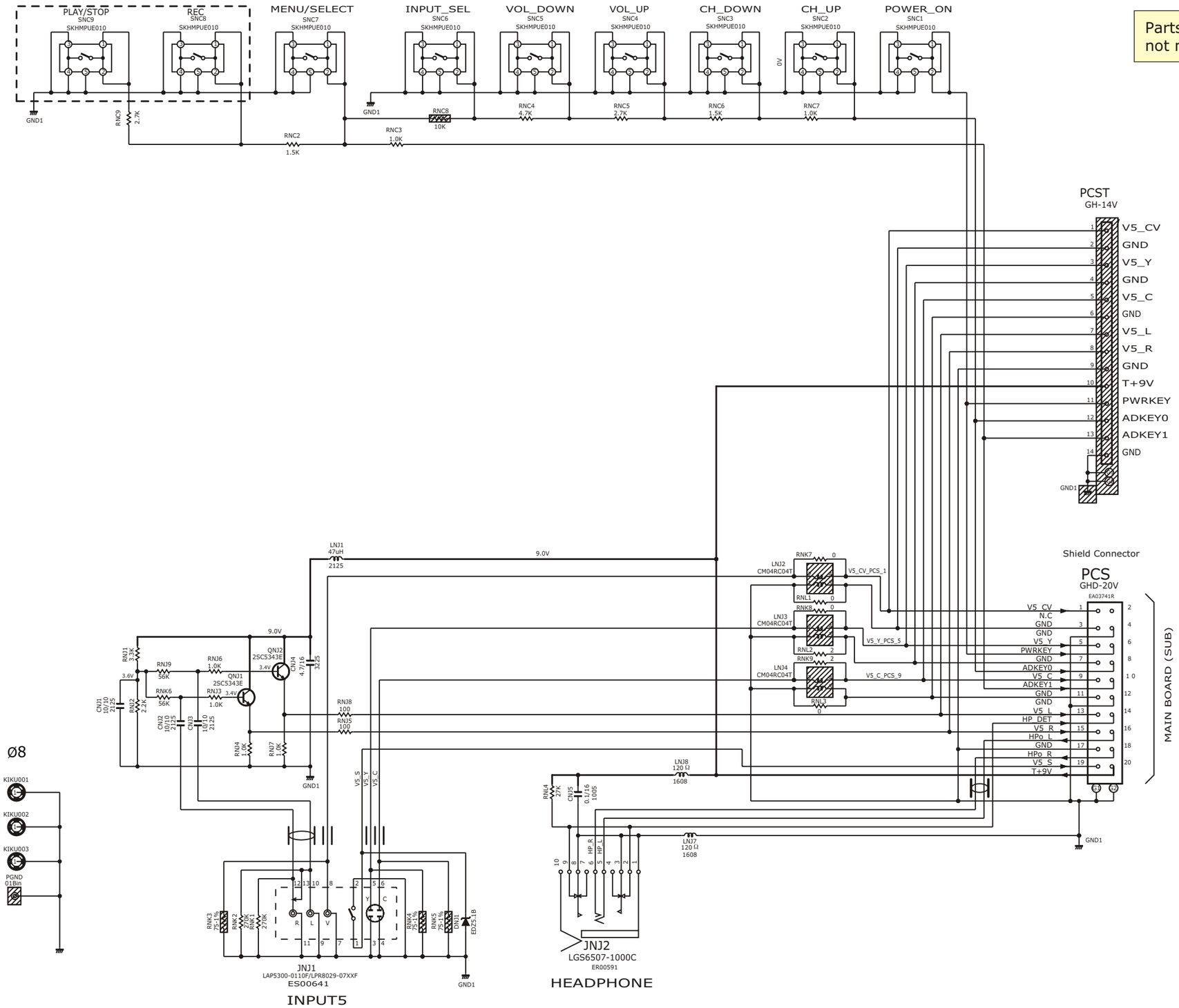


NOTE:
PARTS MARKED WITH HATCHING
ARE NOT MOUNTED IN THIS MODEL.

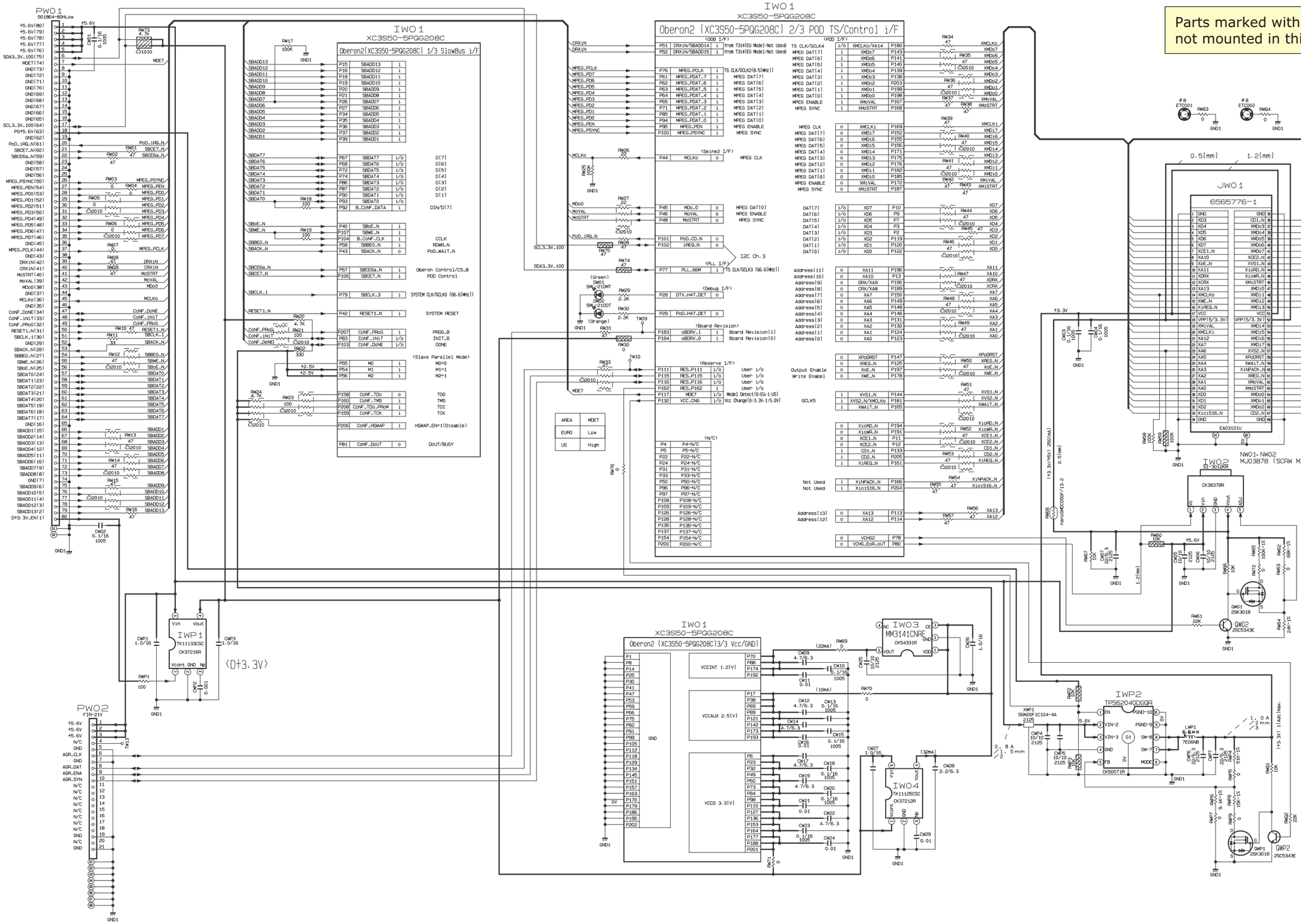


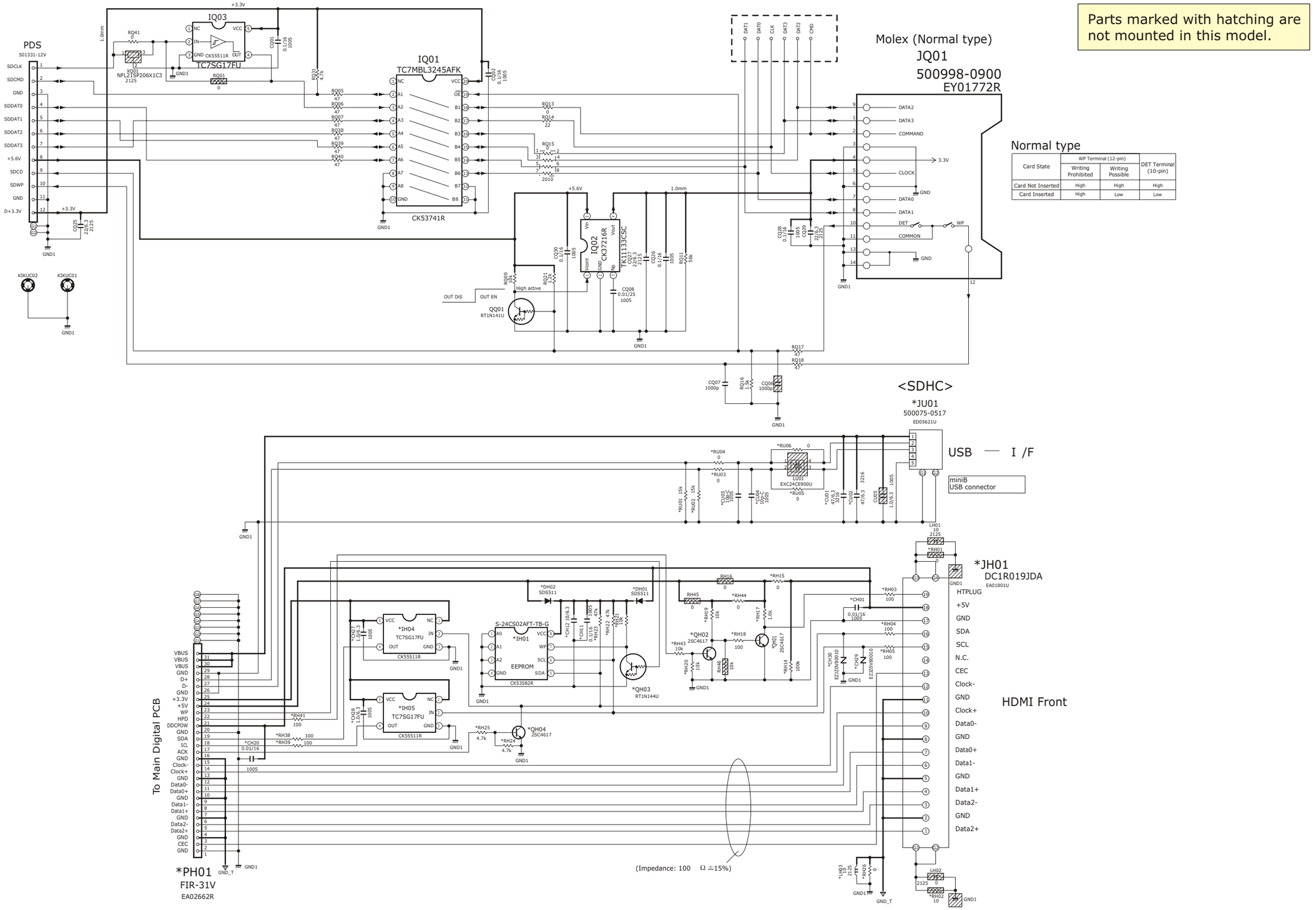


Parts marked with hatching are not mounted in this model.



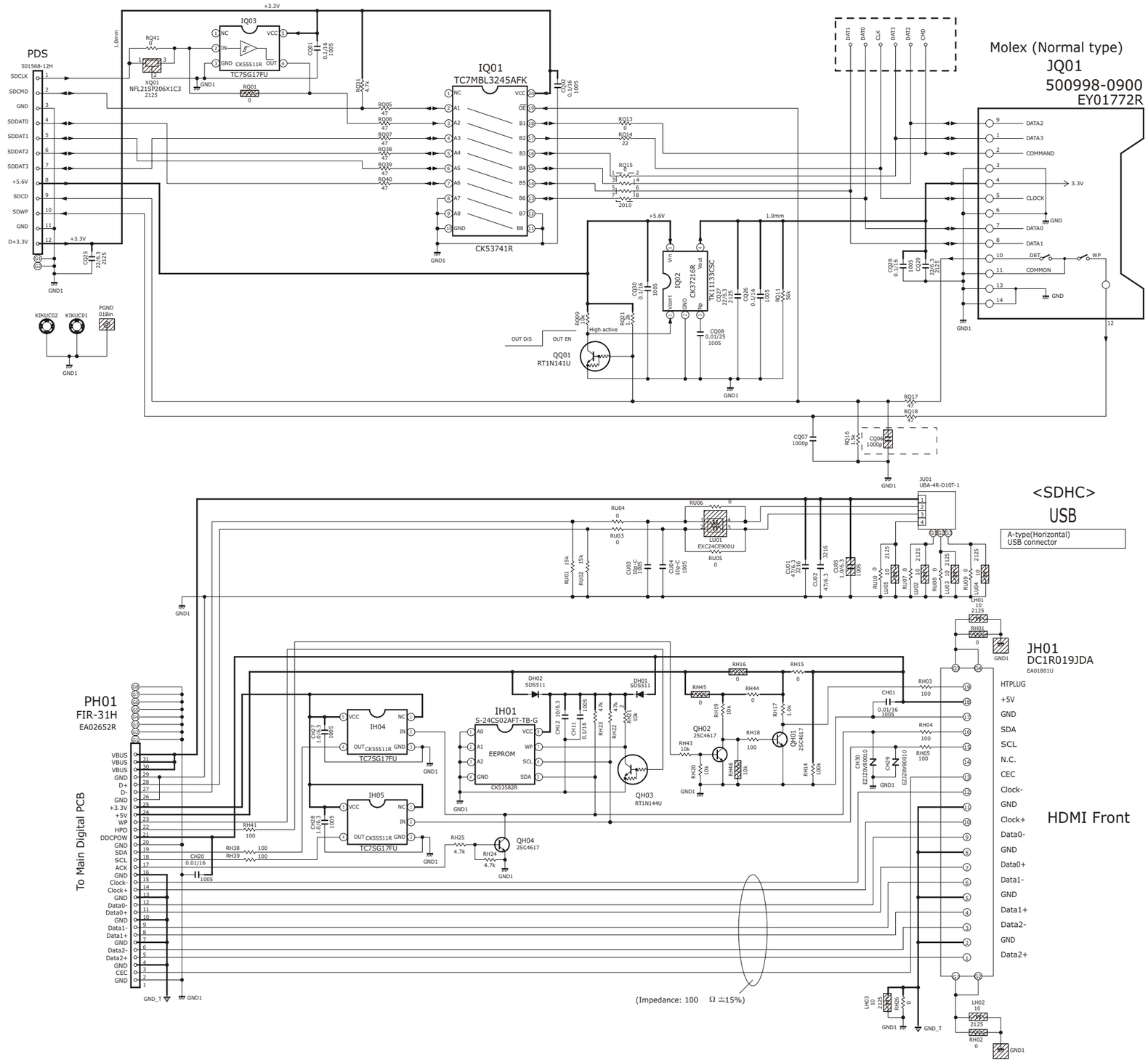
Parts marked with hatching are not mounted in this model.




Parts marked with hatching are not mounted in this model.
PDS
501331-12V
SDCLK
SDCMD
GND
SDDAT0
SDDAT1
SDDAT2
SDDAT3
+5.6V
SDCD
SDWP
GND
D+3.3V
IQ03
TC7SG17FU
CK55511R
IQ01
TC7MBL3245AFK
CK53741R
Molex (Normal type)
JQ01
500998-0900
EY01772R
DATA2
DATA3
COMMAND
3.3V
CLOCK
GND
DATA0
DATA1
DET
WP
COMMON
Normal type
Card State
WP Terminal (12-pin)
Writing Prohibited
Writing Possible
DET Terminal (10-pin)
Card Not Inserted
Card Inserted
IQ02
CK37216R
TK11133CSCe
QQ01
RT1N141U
High active
OUT DIS
OUT EN
<SDHC>
*JU01
500075-0517
ED05621U
USB — I/F
miniB
USB connector
*JH01
DC1R019JDA
EA01801U
HTPLUG
+5V
GND
SDA
SCL
N.C.
CEC
Clock-
GND
Clock+
Data0-
GND
Data0+
Data1-
GND
Data1+
Data2-
GND
Data2+
HDMI Front
To Main Digital PCB
*PH01
FIR-31V
EA02662R
(Impedance: 100 Ω ±15%)
*IH04
TC7SG17FU
*IH05
TC7SG17FU
*IH01
EEPROM
CK53582R
S-24CS02AFT-TB-G
*QH02
2SC4617
*QH03
RT1N144U
*QH04
2SC4617
*QH01
2SC4617

SD Board Circuit *[P60XR01E/U Only]*

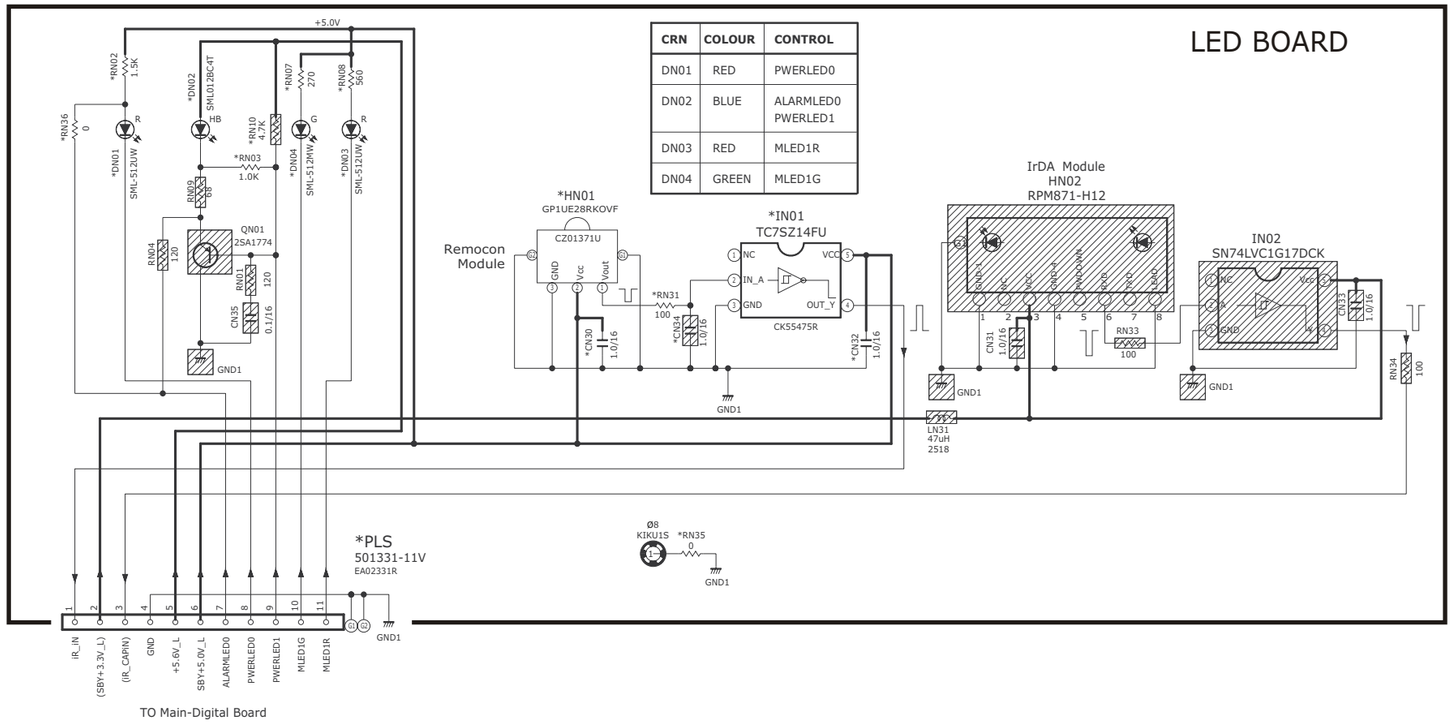
Parts marked with hatching are not mounted in this model.



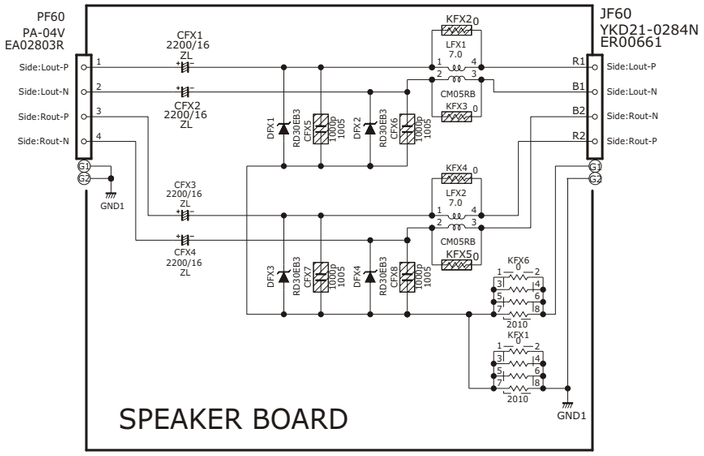
Normal type

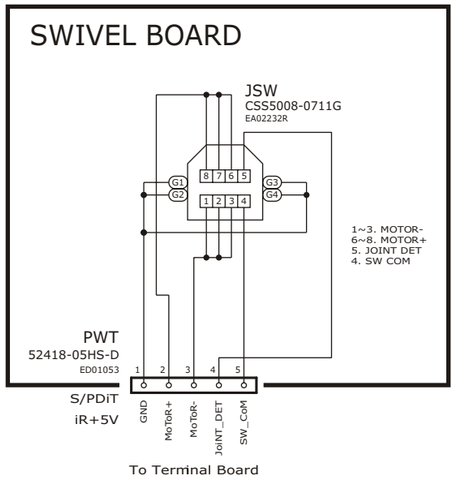
Card State	WP Terminal (12-pin)		DET Terminal (10-pin)
	Writing Prohibited	Writing Possible	
Card Not Inserted	High	High	High
Card Inserted	High	Low	Low

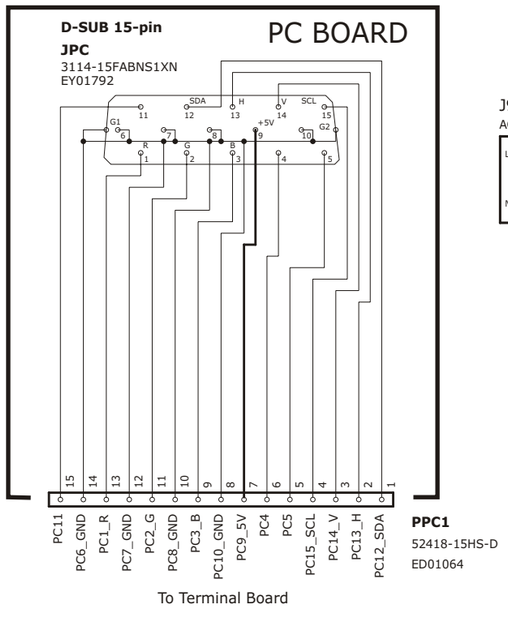
PC, SPEAKER *[P60XR01E/U Only]*, FILTER, LED and SWIVEL *[P50XR01E/U Only]* Board Circuits

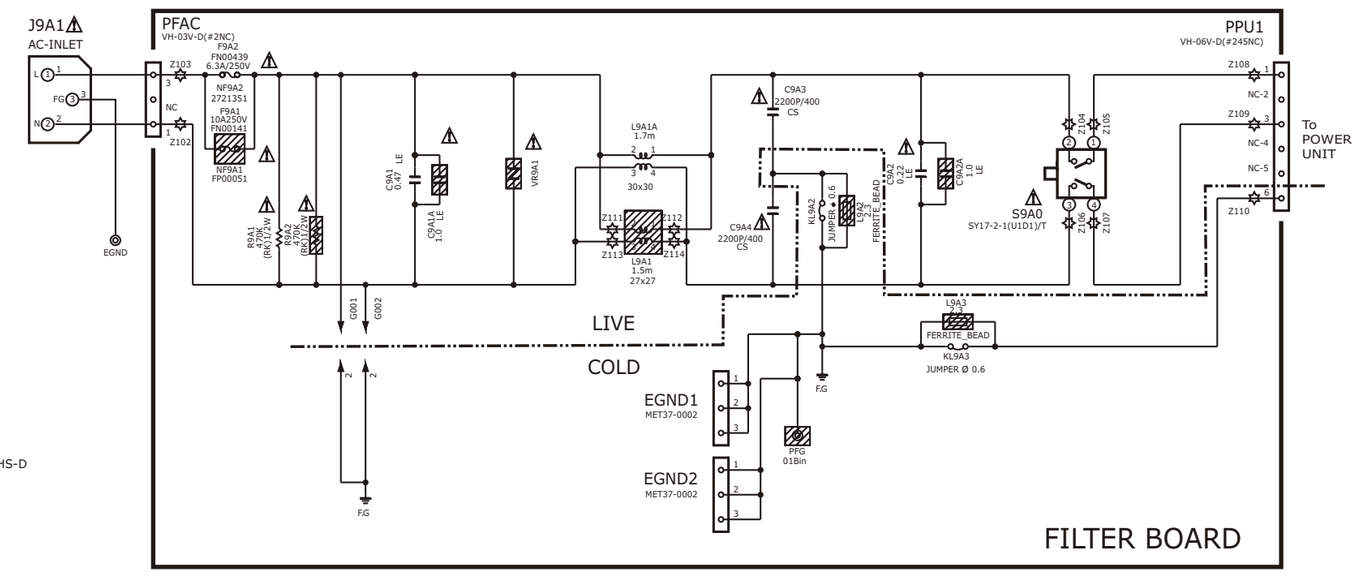


CRN	COLOUR	CONTROL
DN01	RED	PWERLED0
DN02	BLUE	ALARMLED0 PWERLED1
DN03	RED	MLED1R
DN04	GREEN	MLED1G



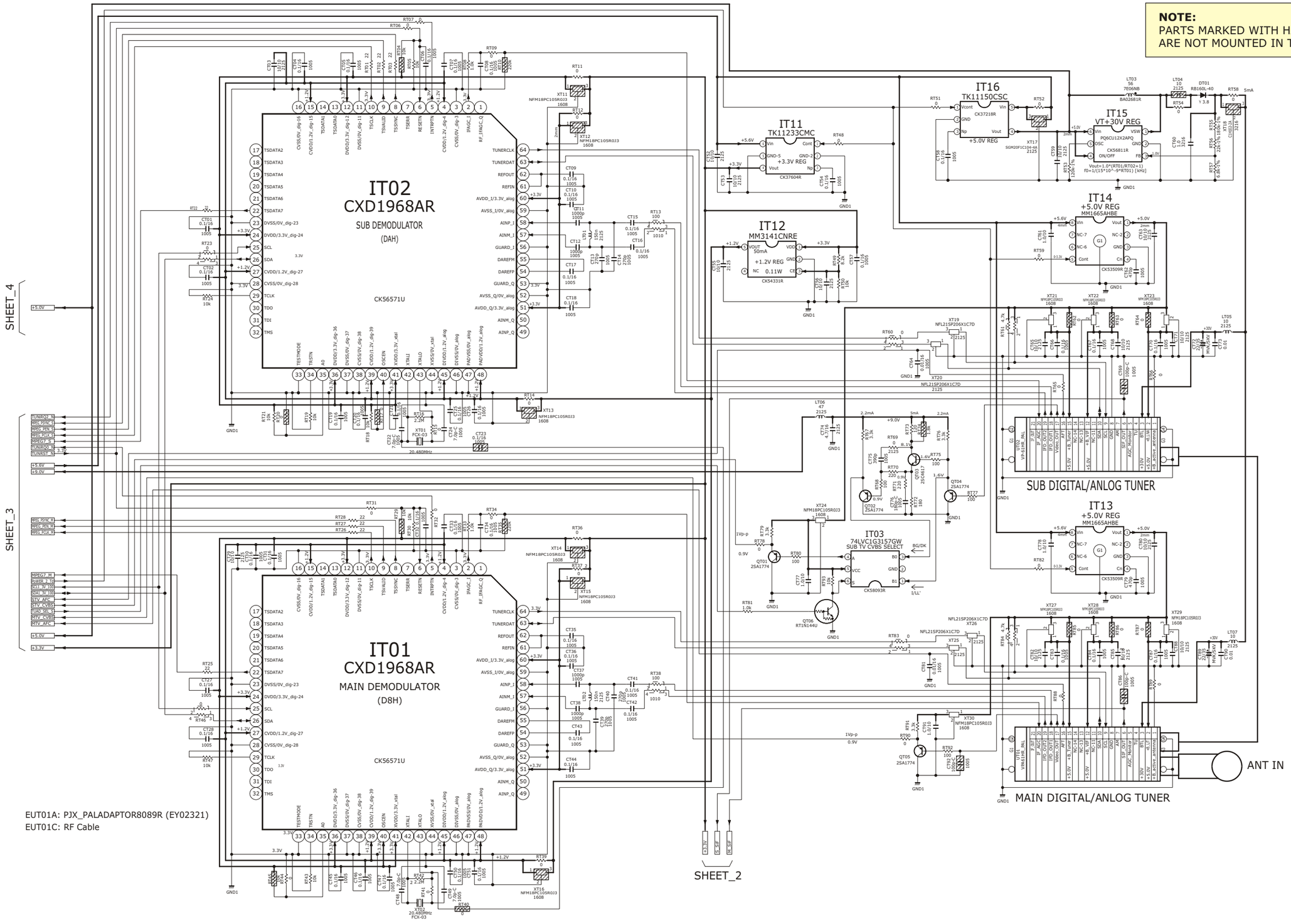


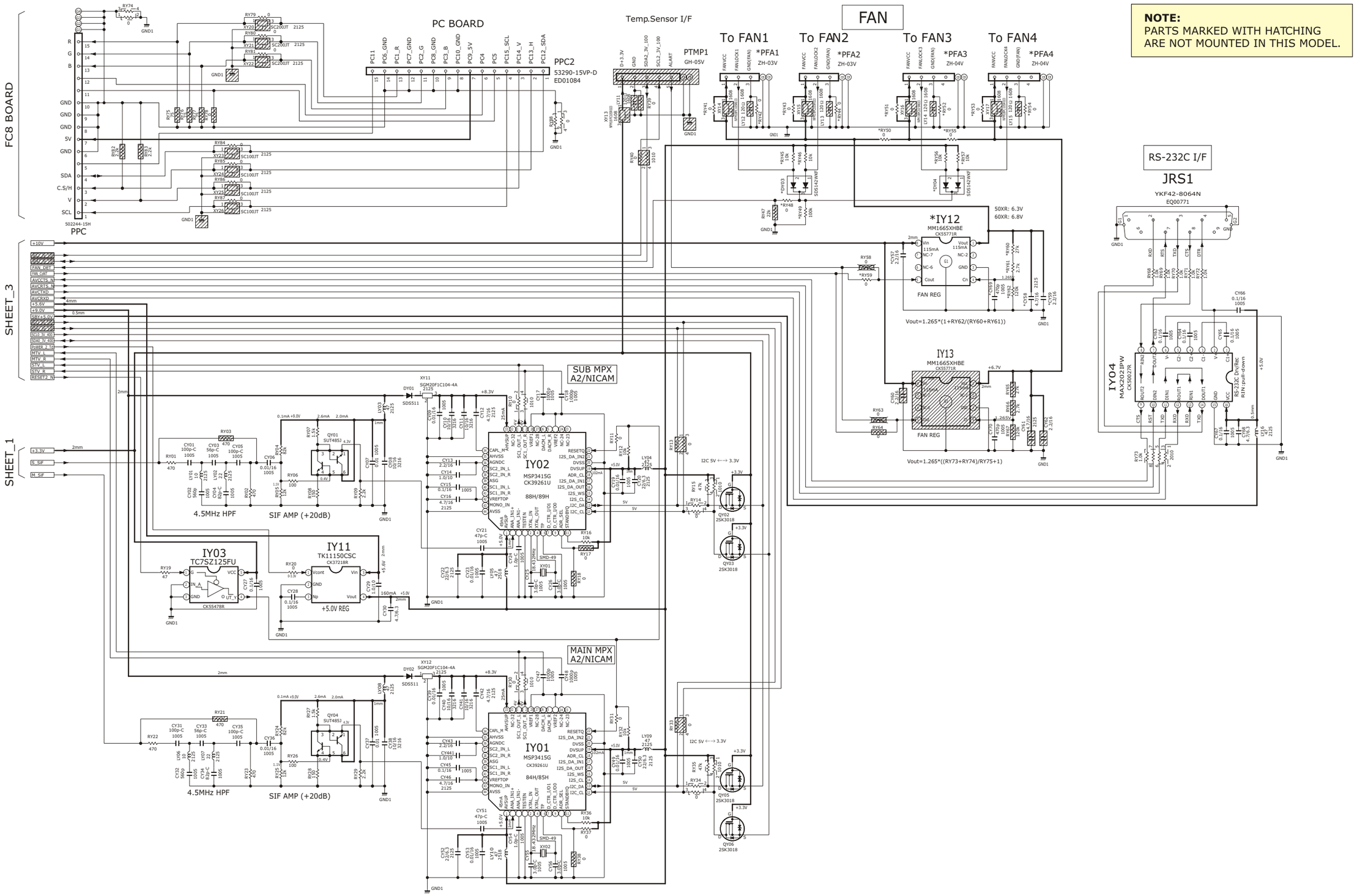




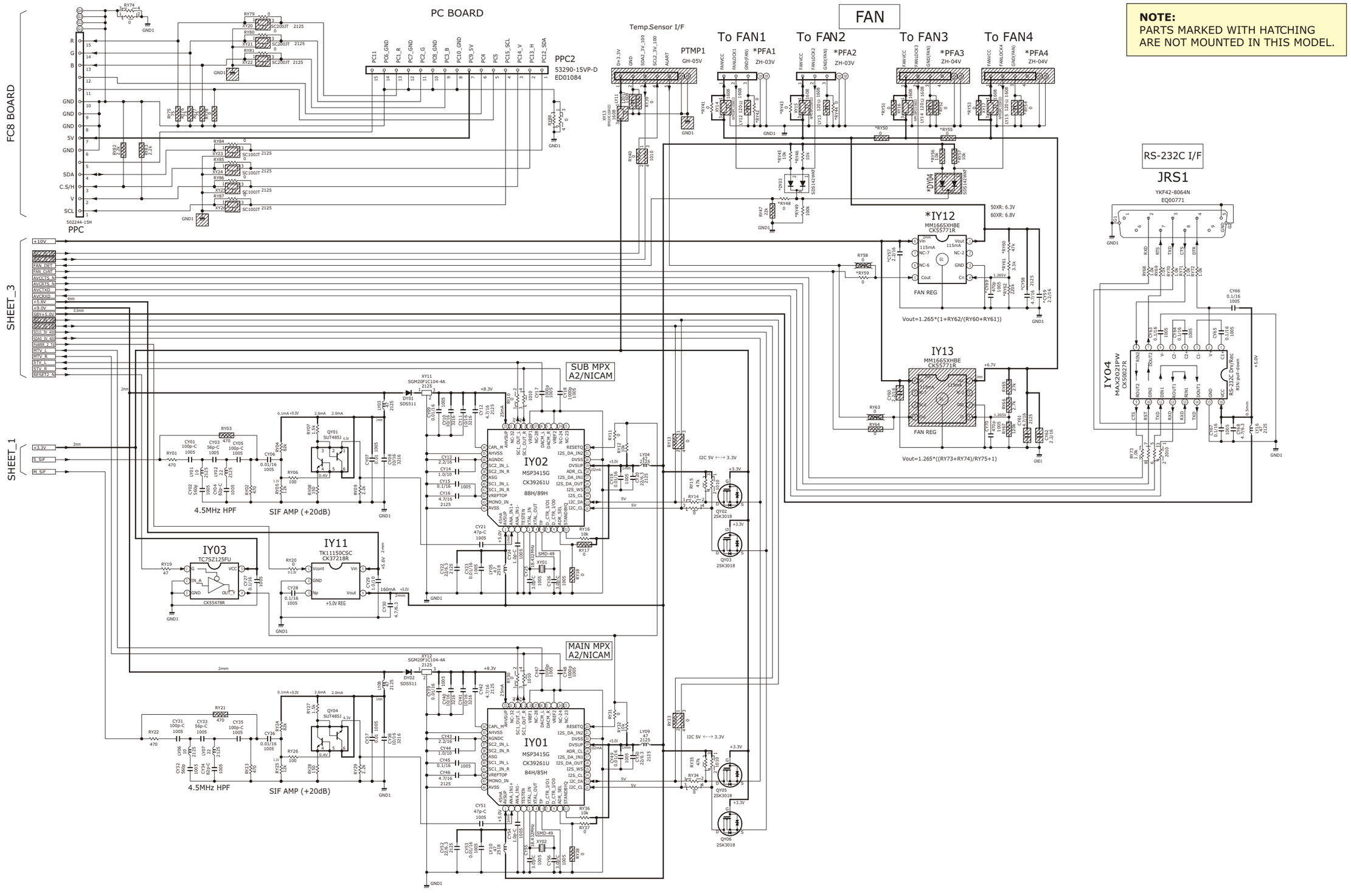
Parts marked with hatching are not mounted in this model.

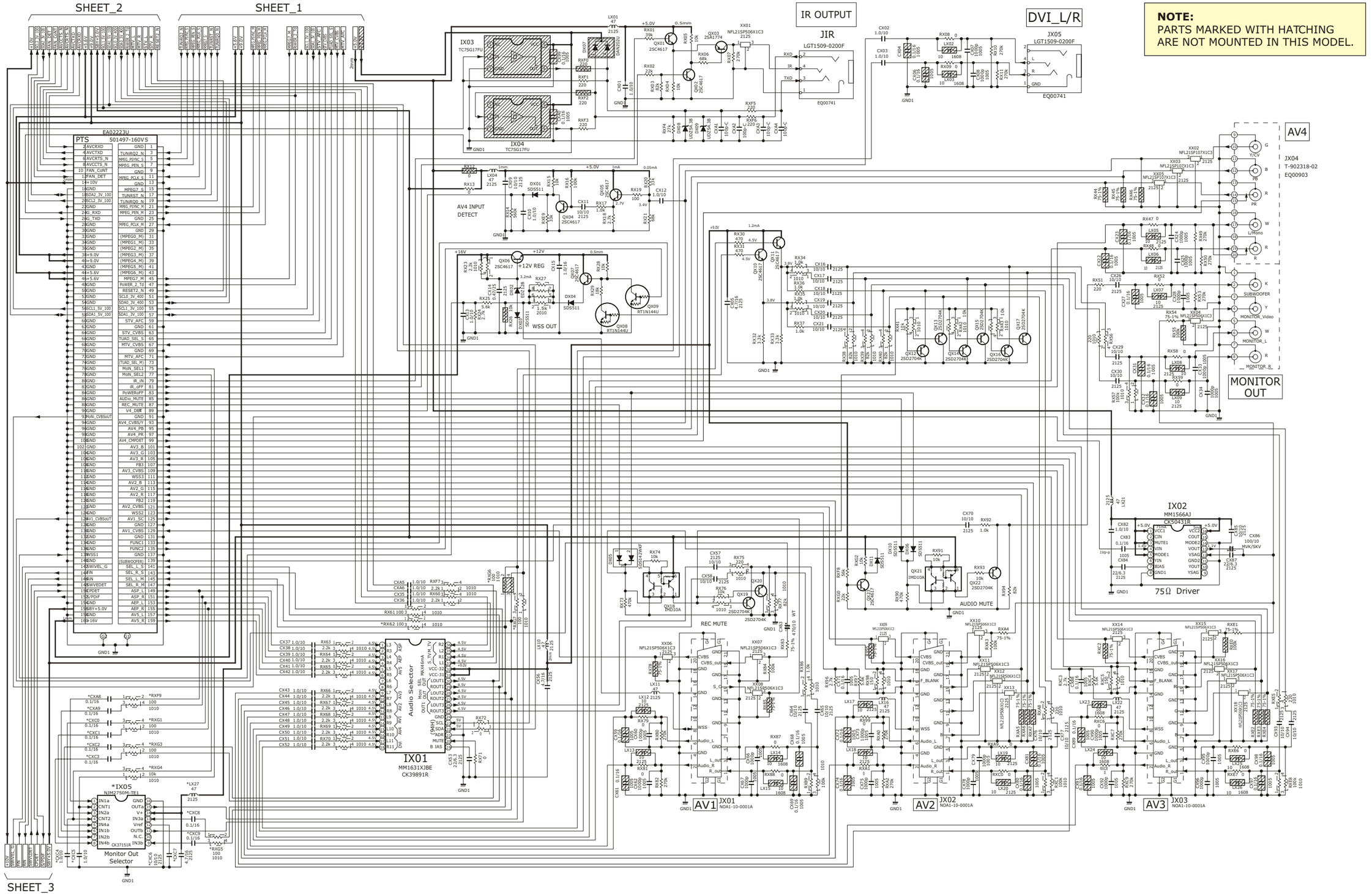
NOTE:
PARTS MARKED WITH HATCHING
ARE NOT MOUNTED IN THIS MODEL.



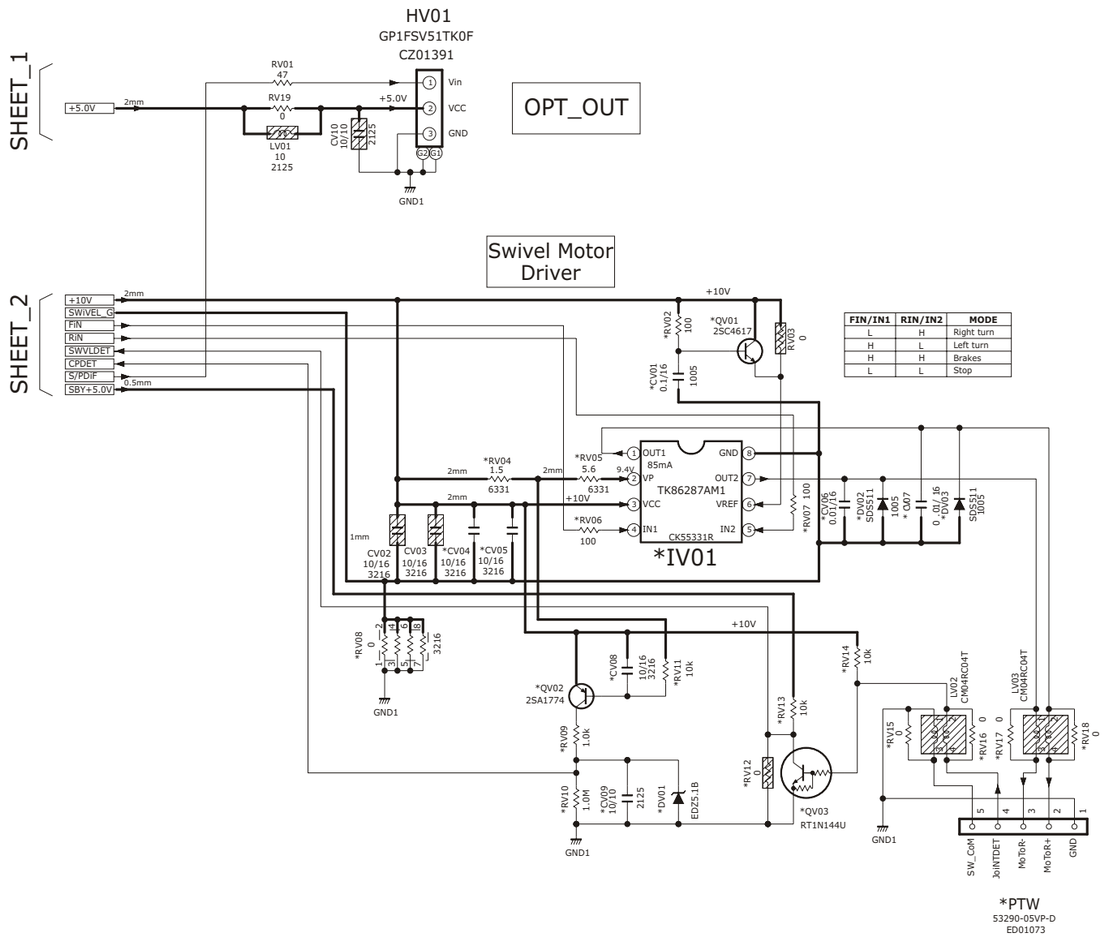


SM017	TERMINAL BOARD CIRCUIT - SHEET 2	HITACHI


PC BOARD
FC8 BOARD
PPC2
53290-15VP-D
ED01084
PPC
502244-15H
Temp.Sensor I/F
PTMP1
GH-05V
FAN
To FAN1
To FAN2
To FAN3
To FAN4
*PFA1
*PFA2
*PFA3
*PFA4
ZH-03V
ZH-04V
NOTE:
PARTS MARKED WITH HATCHING
ARE NOT MOUNTED IN THIS MODEL.
RS-232C I/F
JRS1
YKF42-8064N
EQ00771
*IY12
MM1665XHBE
CK55771R
50XR: 6.3V
60XR: 6.8V
FAN REG
Vout=1.265*(1+RY62/(RY60+RY61))
IY13
MM1665XHBE
CK55771R
Vout=1.265*((RY73+RY74)/RY75+1)
IY04
MAX2021PW
CK50027R
RS-232C Drv/Rec
SHEET_3
SHEET_1
SUB MPX
A2/NICAM
MAIN MPX
A2/NICAM
IY02
MSP3415G
CK39261U
88H/89H
IY01
MSP3415G
CK39261U
84H/85H
IY03
TC7SZ125FU
CK55478R
IY11
TK11150CSC
CK37218R
+5.0V REG
4.5MHz HPF
SIF AMP (+20dB)
I2C 5V ⟷ 3.3V
GND1

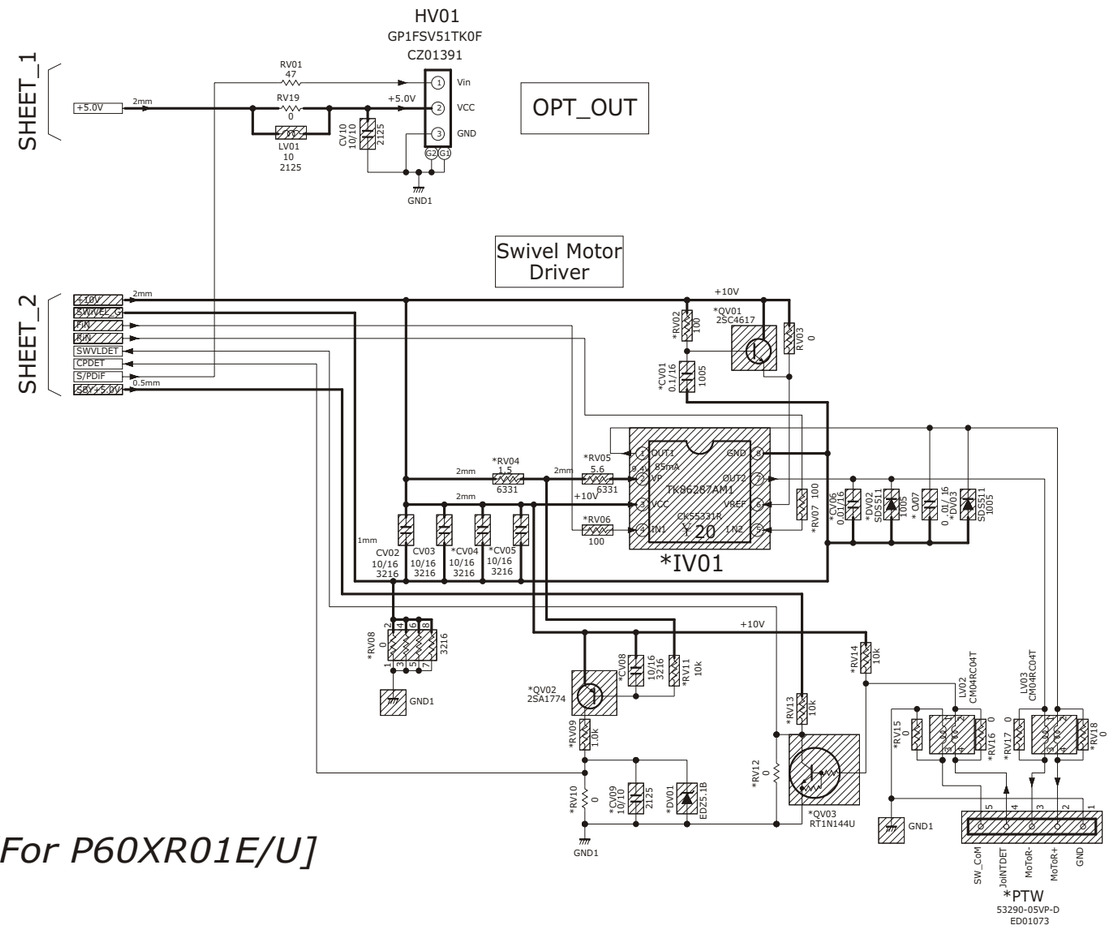

SHEET_2
SHEET_1
SHEET_3
IR OUTPUT
JIR
LGT1509-0200F
EQ00741
DVI_L/R
JX05
LGT1509-0200F
EQ00741
NOTE:
PARTS MARKED WITH HATCHING
ARE NOT MOUNTED IN THIS MODEL.
AV4
JX04
T-902318-02
EQ00903
MONITOR OUT
EA02223U
PTS 501497-160VS
IX03
TC75G17FU
IX04
TC75G17FU
IX01
MM1631XJBE
CK39891R
Audio Selector
IX02
MM1566AJ
CK50431R
75Ω Driver
AUDIO MUTE
REC MUTE
WSS OUT
AV4 INPUT DETECT
+12V REG
IX05
NJM2750M-TE1
Monitor Out Selector
CK37151R
AV1
JX01
NOA1-10-0001A
AV2
JX02
NOA1-10-0001A
AV3
JX03
NOA1-10-0001A

NOTE:
PARTS MARKED WITH HATCHING
ARE NOT MOUNTED IN THIS MODEL.



FIN/IN1	RIN/IN2	MODE
L	H	Right turn
H	L	Left turn
H	H	Brakes
L	L	Stop

[For P50XR01E/U]



[For P60XR01E/U]

HITACHI

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